

Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.



1-9
c 7 For
sep-6

VOL. II, No. 9
September 1938

Foreign Agriculture



*..... a Review of Foreign
Farm Policy, Production,
and Trade*

Issued Monthly by
UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF AGRICULTURAL ECONOMICS

WASHINGTON, D. C.

C O N T E N T S

- - - - -

	Page
The Chinese Textile Industry and American Cotton.....	391
Farm Aid in Poland.....	409
Recent Developments in British Agricultural Policy.....	433

- - - - -

THE CHINESE TEXTILE INDUSTRY AND AMERICAN COTTON

The development of the Chinese textile industry in the last four decades is another phase of the industry's expansion in the Far East. Notwithstanding the difficulties that the industry has had to overcome, the domestic yarn output and, more recently, cloth production have increased to such an extent that China has practically ceased to be an importer of yarn and piece goods. In addition, production of raw cotton in China increased in recent years to the point where the industry is able to dispense with most of its imports of raw cotton. The dwindling of Chinese takings of both finished cotton goods and, subsequently, raw cotton has caused a sharp decline in the ultimate consumption of American cotton.

China, along with Japan and India, is playing an important part in the marked shift of the cotton-textile industry from the West to the East, a development characteristic of the post-war period. The availability of raw cotton, the large demand for yarn and cloth, and the abundant cheap-labor supply augur well for the industry's development. To be sure, for a number of reasons to be mentioned in the course of this article, the growth of cotton manufacturing in China was neither so rapid nor so profitable as in Japan; the fact remains, however, that within a relatively short time it made notable progress. Prior to the outbreak of hostilities between China and Japan, cotton manufacturing was the country's largest industry, with an investment estimated at about \$160,000,000, employing approximately 200,000 workers, producing a total of about 1.2 billion pounds of yarn, and utilizing 5 million spindles and 58,000 looms.

The rise of this industry had an important effect on world trade in cotton goods. From about 1885 through the 1920's, China was one of the largest importers of piece goods, and prior to the World War the same held true with respect to yarn. In the 1930's, this market for imported cotton goods practically disappeared. In 1936, the volume of exported piece goods exceeded that of imports for the first time in over a century. With the increase in domestic output of cotton yarn, it became necessary to import considerable quantities of American and Indian raw cotton. But during the last 4 years, these imports, too, practically came to an end. China is now producing a sufficient supply of raw cotton for domestic requirements, and since 1933 has been practically self-sufficient in both yarn and piece goods. The expansion of the textile industry, accompanied by the increase in acreage under cotton, has adversely affected the demand for American cotton. It has been estimated that between 1930 and 1936 the consumption of American cotton in China - whether in the form of imported cloth and yarn or as raw staple - declined from over 700,000 bales to only slightly more than 100,000 bales, a net loss of 600,000 bales.

DEVELOPMENT OF THE INDUSTRY

Spinning

China's modern cotton-textile industry is of relatively recent origin. The industry in India came into existence during the 1850's and in Japan during the 1860's, but the first mill was built in China in 1890. At the conclusion of the Sino-Japanese War in 1894, the Treaty of Shimonoseki gave foreigners the right to establish factories in treaty ports in China. The right was immediately exercised by Great Britain, Germany, and the United States, each of which constructed a cotton mill at Shanghai; but, on the whole, the impetus provided by the treaty was not sufficient to overcome a number of difficulties that the industry encountered from its very inception. Its growth was slow, as is illustrated by the fact that in 1913, two decades after the first mill was set up, the country's cotton-spinning industry was equipped with not more than 1 million spindles.

The World War had a beneficial effect upon China's textile industry. The difficulty of importing foreign cotton goods, other than Japanese, and the weakening of foreign competition made local manufacturing highly profitable. The domestic industry expanded rapidly. The number of spindles increased from 1,600,000 to 3,300,000, or more than doubled from 1918 to 1922. But the momentum that carried the cotton-spinning industry of China through the war and early post-war years had spent itself by 1925. A number of elements discouraged further mill expansion. Between 1926 and 1930, "civil strife inflicted untold distress upon China's industrial development, The interruption in the means of transport, as well as the increase in the burden of taxation, crippled almost every industry in China. Meantime, the purchasing power of the nation was considerably reduced in the face of a rising cost of living." ^{1/} The loss of Manchuria, which consumed from 20 to 25 percent of the Chinese mill output, added to the difficulties. It is little wonder, therefore, that from 1925 through 1930 the industry gained only 555,000 spindles, making a total of 3,905,000. In the years following, especially in 1935 and 1936, mill expansion increased at a more rapid pace, and at the end of the latter year there were 151 mills in China equipped with 5,102,000 spindles.

The Chinese textile industry is confined to a few cities, chief among which is Shanghai. In 1918, the latter claimed 80 percent of the total spindleage. Aside from its proximity to cotton-producing centers and its modern commercial facilities, Shanghai enjoyed more peaceful conditions than other Chinese cities, which had much to do with the industry's concentration there. As the central Government grew in political power and a greater degree of tranquillity prevailed throughout the country, the industry became more decentralized, and by 1935 Shanghai's share had declined to 52 percent. The expansion noted in recent years took place not in Shanghai but in the interior, mostly in the Yangtze Valley and North China. Chinese companies are now paying particular attention to the Yangtze Valley, where mill operations are expected to be especially profitable because, in addition to the ample supply of raw cotton available there and the market offered for yarn, labor is cheaper than in Shanghai.

Weaving

Power weaving in China developed more slowly than spinning. The mills built prior to the World War evidently found spinning more profitable and paid little

^{1/} Fong, H. D., *Cotton Industry and Trade in China*, Tientsin, 1932, I : 7.

attention to the weaving end of the industry. In 1920, the country's 52 cotton mills had less than 12,000 looms, consuming only 11 percent of the yarn production; by 1929 their number had increased to 29,000. Duties on piece goods prior to 1929 were relatively low, but the higher tariffs imposed since that date have been accompanied by a more rapid expansion in weaving equipment. From 1930 through 1936, the number of looms in China increased from 29,000 to 58,000.

Despite the rapid augmentation of power looms, China is still the only large nation where hand-loom weaving predominates over power-loom weaving. In India, for instance, hand looms account for 21 percent of the total cloth output; in China they produce nearly 75 percent of the cloth. This explains the enormous amount of yarn sold to the interior for use by small weaving factories, equipped with hand- and foot-power looms, and for household weaving on hand looms. The 600 million pounds of yarn sold in 1923 had increased to over 900 million pounds by 1935. The market in China is largely for coarse cotton cloth. The smaller-sized articles are generally made by hand looms, but the power looms have an advantage in the production of piece goods.

Japanese-owned Mills in China

In an attempt to evaluate the development of the Chinese cotton-textile industry, it is well to distinguish between the mills owned by the Japanese and those owned by the Chinese. The two groups share many problems in common, and at first glance a special reference to the Japanese mills in China might not seem necessary when one is considering the country's textile industry as a whole in relation to American cotton. Yet the differences in management, accomplishment, and, particularly, the future prospects of the two groups are such that they may well receive separate treatment.

Prior to the World War, Japan took relatively little interest in the development of the Chinese textile industry. It was only toward the close of the war that the Japanese became important mill promoters. They recognized in China a place in which they could expand their activities and invest their war profits. Furthermore, low wages, long hours of work, nearness to supply of raw cotton, great demand for yarn, as well as the desire to escape the rising Chinese tariff on imported yarn and piece goods combined to make China a happy-hunting-ground for Japanese textile interests.

From 1914 to 1925, the Japanese installed 33 mills with 1,239,156 spindles. Of this total, as many as 24 were completed between 1920 and 1925. This rapid development was promoted by an upward tariff revision on imported yarn, which was put into force in August 1919. "The Japanese importers, realizing the higher duty that the present revision imposed upon the finer counts of yarn and the potentiality of a further rise that future revisions might create, immediately seized the opportunity to establish more mills in China so as to dispense with the tariff entirely."^{2/} Erection of new mills, expansion in size of old ones, and purchase of Chinese mills have continued unabated. The result is that, while in 1913 Japanese mills accounted for 23 percent and Chinese for 66 percent of the total spindleage, by the end of 1936 the respective figures were 43 and 53 percent. The three existing British-owned mills controlled the remaining 4 percent of the total spindleage.

The Japanese made equally rapid progress in weaving. As is well known, they have been gradually taking over an increasingly large proportion of the weaving capacity of China, and the total yardage of piece goods produced in their mills is

^{2/} *Ibid.*, p. 8.

almost double that of the mills belonging to the Chinese. The looms in mills owned by the Chinese have doubled since 1921, while in those owned by the Japanese they have increased sixfold. Of the total number of power looms in China in 1936, Japanese mills owned 50 percent, Chinese 43 percent, and British 7 percent.

Japanese Expansion in North China

Recently, Japanese companies have been concentrating their activities in North China. Thus, "since last year (1936) the number of Japanese spinning concerns seeking to make North China their new theater of activity has been rising rapidly until all the leading firms in the industry are now vying with one another to gain footholds there, either by establishing mills or by buying plants from the Chinese. The Japanese mills already in the field are either making additions or contemplating the step. Altogether, there is every indication that the production capacity of Japanese cotton mills in North China will be doubled in the near future." ^{3/} The shift from Shanghai to North China was made largely because it paid to do so, since "in North China the cost of production is cheap and the earning power of a given capital is appreciably greater than in Japan." ^{4/} To the other factors conducive to cotton spinning and weaving in North China must be added Japan's stronger political position there and the growing dissatisfaction on the part of a number of owners in Japan with the production-curtailement plans enforced by the Japanese Cotton Spinners' Association.

The Japanese cotton-mill expansion in North China has brought about a decline in Chinese mill ownership. In 1932, the Japanese mills in North China had a total of 365,000 spindles as against 375,000 spindles in Chinese mills; by the end of 1936, the number of the former had risen to 689,000, while the latter had declined to 242,000 spindles. Tsingtao and Tientsin are the two centers of Japanese activity. In Tsingtao, the second largest spinning center of China, the Japanese dominate the industry by owning 9 of the 10 mills. While these mills were actually built and equipped by the Japanese, the opposite was true of Tientsin mills, which, until recently were concentrated in the hands of the Chinese. Since Tientsin is a market for cotton cloth second only to Shanghai and the Chinese mills have been in distress for some time past, the Japanese not only are setting up new and expanding existing Japanese mills, but are concentrating on buying up Chinese mills. This proceeded at such a rapid pace in Tientsin that, within 2 years, 57 percent of the Chinese-owned thread spindles and 72 percent of the yarn spindles passed into the hands of the Japanese. This development in North China is a striking indication of the marked inability of Chinese mills located there to withstand competition from mills owned by the Japanese. It also has an important bearing upon the position of American cotton in both China and Japan, since industrial expansion is related to the efforts of the Japanese to improve and enlarge the acreage under cotton in North China.

FACTORS IMPAIRING PROGRESS OF CHINESE-OWNED MILLS

A study of the development of the textile industry in the Far East reveals that only in Japan and in the Japanese textile industry in China does an expansion in physical equipment reflect the industry's prosperous condition. Such is not the case in India, nor is it true of the greater number of Chinese-owned mills in China. An increasing number of mills, spindles, and looms is not always an indication that all is well with the industry. With the exception of the war period and the years immediately after, when China's textile industry reaped huge profits, the Chinese-owned mills for the most part have been subjected to severe stresses and strains.

^{3/} *Oriental Economist*, May 1937, p. 280.

^{4/} *Ibid.*

In the 1930's they were especially hard hit. From the 1930 volume of yarn sold, there was a decline in 1931 to 78 percent, in 1932 to 52 percent, and in 1933 to 35 percent. At one time, operations of nearly 50 percent of all the spindles owned by the Chinese were suspended; between 1930 and 1934, most of the Chinese mills were operating at a loss.

The causes underlying the difficulties of the Chinese-owned mills and, at times, even of the Japanese-owned mills are manifold. Inefficient management, poor financial condition, low labor productivity, keen competition from Japan, civil strife, "natural calamities," excessive taxation, and low purchasing power of the population - all these have affected the industry adversely. The world-wide economic depression undoubtedly accentuated the difficulties. Prior to the depression, exporters of cloth to China from countries where currency was on a gold basis could not afford to lower their prices to compete with the output of Chinese mills. In a sense, imports supplemented rather than hindered production in China. But with the abandonment of the gold standard in Great Britain and Japan, the price difference between imported and native goods was cut considerably. Furthermore, with the deepening of the depression, the price of yarn suffered a sharp decline, as indicated by the following quotations from Tientsin. "The highest price for 42 counts has dropped from 544.75 yuan (\$122) per bale in 1931 to 277.50 yuan (\$94) in 1934; for 32 counts, from 358.75 to 237.00; for 20 counts, from 273.77 to 176.00; for 16 counts, from 257.34 to 179.25; and for 10 counts, from 220.62 yuan to 155.50 yuan." ^{5/} Prices of raw cotton declined also but to a smaller degree, and for this reason the mills had to "sell yarn cheap and buy cotton dear."

Despite these price declines, the effects of the crisis should not be overestimated. It may be noted in this connection that the Japanese-owned mills in China suffered relatively little even when the crisis was at its height. There are a number of other features peculiar to the Chinese-owned mills that severely hamper the progress of the industry. A review of the financial position of the mills, the management, the labor policies, and the labor efficiency will throw some light on the prevailing situation.

Financial Straits

Lack of working capital is a basic weakness in many of the mills. The practice of initial investments in fixed assets only, payment of high dividends in prosperous years, and, on occasions, declaration of dividends even in losing years cause the mills to rely upon loans for a considerable portion of their working capital. With interest rates ranging from 8 to 12 percent per annum, the loans constitute a heavy charge on the total cost of production. Because of insufficient capital and a faulty marketing system, the greater number of mills "cannot buy their raw materials and sell their products most advantageously. * * * It is not infrequent to find that a single bale of cotton may pass through several brokers, each reaping some profit, before it actually reaches the hands of the manufacturer." ^{6/}

Poor Management

To the unsatisfactory financial situation must be added poor management, particularly in the older mills. Some Chinese owners are not familiar with the spinning industry and they appoint to important managerial posts friends and relatives who know little about the mills entrusted to their care. In this way the main burden of

^{5/} Wu, Leonard T. K., "The Crisis in the Chinese Cotton Industry," *The Far Eastern Survey*, January 16, 1935.

^{6/} Fong, H.D., "Cotton Industry and Trade in China," *Chinese Social and Political Science Review*, October 1932, p. 421.

mill management is often placed upon persons who are incapable of assuming the responsibility and whose hands, moreover, are tied because of their obligations to the controlling stockholders or owners. The detrimental effects that such a state of affairs has upon every phase of the industry were not felt so keenly in times of rising prices; but in normal times, when efficient management often spells the difference between profit and loss, the Chinese-owned mills in some localities must give way to the better-managed mills. Some Chinese mills are well managed; but, on the whole, Japanese-owned mills are conceded to have better management and greater efficiency. Japanese mills, as a group, also excel in the type of mill foreman employed. Japanese foremen are usually better trained and are more successful in labor management.

The Labor Problem

The problem of labor in the Chinese-owned mills is yet another element that is retarding the industry's development. Unlike the workers of Japan, about 90 percent of the Chinese textile operatives have no schooling, are generally inefficient, and work for low wages. Consequently, their standard of living is very low. In India the greater number are male; but in China, as in Japan, female labor predominates. Child labor in textile mills is almost totally absent in Japan and India, but in China it still accounts for 6 percent of the labor force. Furthermore, while in Japan and India the normal working day ranges from 9 to 9.5 hours, in China two shifts of 11 or 11.5 hours are the usual practice.

In China, as in other Eastern textile centers, wages are not regulated by legislation - local, State, or Federal - and are depressed by reason of the overpopulated villages with their inferior living conditions. Since there are more workers than the mills can employ, the advantage rests, of course, with the employers. In 1929, the average daily wage of a male worker in a mill was around 49 Chinese cents (21 United States cents) and that of a woman 35 cents (15 United States cents). The average monthly wages for spinning by men, women, and children were 15.28 yuan (\$6.40), 12.50 yuan (\$5.24), and 8.07 yuan (\$3.38), respectively. 7/ Weavers were the better-paid workers, the monthly wages for the respective groups being 23.54 yuan (\$9.86), 18.09 yuan (\$7.58), and 11.69 yuan (\$4.90). Practically the same level of wages has prevailed since 1929. It should be added that wages in the Japanese-owned mills are somewhat higher than in the Chinese-owned, but the difference in cost of production is amply compensated by the greater productivity of the former.

Low Labor Efficiency

Of the three Eastern textile-manufacturing countries, only in Japan do cheap labor and high efficiency go hand-in-hand. It is generally recognized that in China productive efficiency in Chinese-owned mills is lower than that in Japanese-owned mills and still lower than that in mills in Japan. In 1929, a male spinner in Japan attended, on an average, to 178 spindles and a woman worker to 48 spindles; in 1930, a Chinese operator attended to only 20 spindles. These averages were for the entire textile industry. "The worker in Japanese-owned mills, however, operated a much higher number of spindles (24) than his comrade in Chinese-owned mills (16). Similarly, the worker in Japanese-owned mills operates a larger number of looms (1.10 vs. 0.58 loom) and weaves a far greater quantity of cloth (786.38 vs. 261.73 pieces per year) than his comrade in Chinese mills." 8/ Labor efficiency in the Chinese-owned cotton mills has been on the increase since 1930, but the same development,

7/ *Ibid.*, p. 135.

8/ *Ibid.*, p. 300.

and even to a greater extent, has been taking place in the Japanese-owned mills in China and, of course, in the textile industry of Japan proper.

Operations of the Japanese-owned mills have been disturbed during the anti-Japanese movements in China, and, at times, by discriminatory levies. But, on the whole, the advantages they enjoy far surpass the handicaps. The equipment of Japanese-owned mills is better than that of most Chinese mills; the former do not suffer from any lack of working capital and are in a favorable position either to purchase raw materials or to market their finished products in other countries. Although the executives and foremen of the Japanese mills are skilled in scientific management, their salaries are frequently lower than those of similar employees in the Chinese mills. Translating these advantages into terms of the total cost of production, other than the cost of raw cotton, a study prepared by the China Cotton Control Committee revealed that it cost a Chinese owner 43.80 yuan (\$16.00) to produce one bale of yarn (20s) as against a cost of only 20.40 yuan (\$7.46) in a Japanese mill - such is the handicap under which the Chinese mills operate.^{2/}

TARIFF PRINCIPAL AID TO DOMESTIC INDUSTRY

Chinese mills appealed to the Government for aid even before the distress of the 1930's; and, according to time-honored tradition, tariff protection was the answer. A change in the attitude of the Chinese Government toward tariffs may be noted here. The tariff had been essentially a revenue-raising instrument; since 1930, however, it has been looked upon as an instrument of national economic policy - even though the reduction of imports caused by higher duties is likely to result in an immediate financial loss to the Government. For this reason, the high rates imposed on most classes of cotton goods were primarily for the purpose of protecting the growing native industry. In 1915, the import rate on yarn was \$1.40 per 100 pounds. Since 1919 the Chinese Government has raised the yarn-import duty six different times, with the result that the 1934 tariff rate, which is still in effect, now amounts to \$3.60 per 100 pounds. The process of raising piece-goods duties had a later start. In 1929, the average rate was only 70 cents per 100 yards; but, as the cry for a higher tariff became the rallying point of the industry, the rates were raised in rapid succession - in 1930, 1931, 1932, 1933, and finally in 1934 to \$2.60 per 100 yards.

The increase in import duties was sufficiently steep to protect domestic production of all goods except those of specialized types. Although the cotton mills in China are primarily engaged in spinning, yet as a result of the new duties the output of piece goods in 1935 was 57 percent greater than that in 1930. The severe blow that the tariff administered to the import trade in both yarn and piece goods will be discussed in a later section.

Aside from the tariff, the tendency during the period 1929-1934 for the Chinese currency to depreciate in terms of most foreign monetary units was of assistance to China's textile industry. As in the case of the tariff, this factor widened the difference in price between Chinese-made and imported yarns, thereby strengthening the position of the former. Mention should be made also of the anti-Japanese boycotts, which by limiting the supply of imported goods increased the demand for native goods.

^{2/} "Japanese Spinning and Weaving Industry in China," translated from the *Monthly Review*, December 1935, published by the Bank of China, Shanghai.

CONSUMPTION OF RAW COTTON

Notwithstanding the serious weakness that has characterized Chinese mills, the industry as a whole has continued to grow in physical equipment, even though at a slow pace. But from the standpoint of American cotton producers and exporters, the really important index of the growth is the volume of cotton consumed.

Table 1. Consumption of raw cotton in all mills in China, 1936 with comparisons ^{a/}

Year	Chinese	American	East Indian	Egyptian	Other	Total
	1,000 <u>bales</u>	1,000 <u>bales</u>	1,000 <u>bales</u>	1,000 <u>bales</u>	1,000 <u>bales</u>	1,000 <u>bales</u>
<u>Average:</u>						
1921-1924.....	1,123	98	343	2	-	1,566
1925-1928.....	1,296	223	436	1	-	1,956
1929-1932.....	1,405	563	439	7	4	2,418
<u>Annual:</u>						
1933.....	1,774	557	184	21	1	2,537
1934.....	2,031	342	213	25	3	2,614
1935.....	2,149	181	100	27	10	2,467
1936.....	2,363	81	77	29	11	2,561

^{a/} Bales of 478 pounds net.

China Cotton Mill Owners' Association.

Data on mill consumption prior to 1921 are wanting; but it is estimated that on the eve of the World War the volume increased to a total of approximately 500,000 bales, rising further to about 1 million bales in 1920. Despite occasional setbacks, in 1928 the Chinese textile industry consumed 2,200,000 bales, or more than double the 1920 figure. In 1934, mills consumed an all-time record volume of 2,614,000 bales, while the average for the years 1932-1936 was 2,535,000 bales.

In the past, mills in China used both domestic and imported cotton. During the years 1925-1933, over a third of the cotton consumed by mills in China was foreign staple, but since then cotton imports have all but disappeared. Both the rise and the decline of foreign-cotton consumption in China are definitely related to the volume and kind of domestic production and, to a smaller extent, to the mixing practices of the industry. It seems pertinent, therefore, to touch upon the factors that determine the demand for American cotton in China.

Importance of Chinese Cotton

China ranks as the third largest cotton-producing country of the world, following the United States and British India in the size of the crop. For several centuries, China has cultivated cotton but during the past several decades has not produced sufficient for domestic needs. In recent years, however, favorable cotton prices in relation to those of other crops, the imposition of import duties on raw cotton and cotton textiles, improved transportation facilities, and the cotton-improvement programs sponsored by the Government have resulted in a considerable expansion in production. Considering the coarse quality of yarn spun, as well as the total volume of output, China has now become practically self-sufficient in cotton.

Figures on cotton acreage and production are available only for the post-war period. From 1920 to 1931, the area under cotton averaged about 5,500,000 acres

with an average output of 2,400,000 bales. But beginning in 1932 and continuing into 1936, the area rapidly increased, reaching in the latter year an all-time record of 8,450,000 acres with an output of 3,870,000 bales. This record crop was equal to 70 percent of the Indian production and to over 30 percent of the United States crop in the corresponding year. The expansion in production is attributed solely to the increase in acreage rather than to a higher yield. From 1920 to date, yields have averaged around 215 pounds per acre, with the yield variations from year to year slightly less than those of most countries. It may be noted that, as a result of intensive cultivation, Chinese cotton yields average higher than those in the United States and are two and a-half times as high as Indian yields.

In addition to the volume of output, the type of cotton produced is of significance in determining the demand for American cotton in China. It has long been known that Chinese cotton is a short-staple cotton with poor spinning qualities. China, however, grows many variations of quality and lengths of staple. According to investigations made by Fred Taylor, cotton specialist of the Bureau of Agricultural Economics, the ordinary native variety is about $5/8$ to $3/4$ inch in length, none of the native strains reaching an inch and very few $7/8$ inch. For many years there have been persistent efforts to improve the quality of native cotton, by selection and by introduction of American seed. In the Yangtze Valley and in North China, a considerable output of staple $3/4$ inch in length and longer is now being obtained, but the production of cotton more than $7/8$ inch in length is rather limited.

No statistics are available to indicate the amount of improved cotton produced in China. In 1934, more than half of the Chinese cotton output contained some foreign strain; but, according to Mr. Taylor, they were "so badly mixed and so contaminated by native varieties that only a very few hundred thousand bales, at the most, are admittedly competitive with American cotton." There are indications, however, that the ever-increasing quantities of improved seed distributed are likely to result in a larger volume of better-grade cotton during the next few years.

Mixing Practices

Another factor that has had a detrimental effect upon the position of American cotton in China is the Chinese mixing practice. It is well to remember in this connection "that the mixing or blending of different varieties and staples now being practiced is fundamentally different from the practice in older manufacturing countries like America, England, and on the Continent of Europe."^{10/} The earlier development of cotton processes and technique and the demand for high-quality goods in these countries brought about the demand for better-quality cotton, and great care was taken to insure the blending of identical staple lengths. In China, as well as in Japan, there is no such limitation or policy, and spinners may mix a number of growths of cotton with as much as $1/8$ -inch difference in length of staple. This practice, of course, gives more latitude in choosing cheaper and inferior grades of cotton.

The Japanese-owned mills in China are, to a large degree, branches or subsidiaries of Japanese companies, and it is natural, therefore, that they should follow somewhat the same methods of blending. Chinese mills also practice the same methods to some extent, but neither use as much American cotton in their mixings as do mills in Japan. This is attributed to the fact that the Chinese domestic market is satisfied with lower-quality piece goods and yarn than those manufactured for export trade by Japan. Though mixing practices vary from mill to mill, the following general principles, until very recently, applied to all mills in China: For the

^{10/} From an unpublished report by Fred Taylor.

spinning of counts up to 20, Chinese cotton is generally used, but some low-grade American or Indian is also used when their price is relatively low; from 20s to 42s, good-quality Chinese, some Indian, and 7/8- to 15/16-inch American, especially the latter when prices are favorable; in counts above 42, Egyptian and long-staple American varieties.

Utilization of American Cotton

The increased production of Chinese cotton went hand-in-hand with increased domestic consumption of this staple and a decline in the consumption of foreign cotton. In 1921, China's textile industry used about 1 million bales of native staple, representing 74 percent of the total consumed. In 1936, the spinning mills used 2,364,000 bales of Chinese staple, which was 92 percent of the total consumption. This development practically eliminated cotton imports, including American cotton, from the Chinese market.

Prior to 1911, there were practically no imports of American raw cotton into China, and from then on through 1920 they probably averaged not more than 20,000 bales annually. Only with the expansion of the textile industry in 1920 and after did it become necessary to obtain an increased volume of foreign cotton. The production of Chinese cotton during the period 1920-1930 remained at about the same level, and the bulk of it was suitable only for spinning 20-count yarn and lower. Indian cotton was mainly used in the spinning of counts up to 32, and American cotton had to be imported for the spinning of higher counts.

In consequence of this development, imports of foreign cotton steadily increased from 189,000 bales in 1920 to 964,000 bales in 1930. When American prices were low, as they were following the large 1926 crop, imports of American showed a considerable rise and American was also used in spinning lower counts of yarn. From 1921 to 1925, China imported an annual average of 55,000 bales of American cotton as against 291,000 bales of Indian, whereas in the next 5 years the respective figures were 216,000 and 364,000 bales. Thus the American share in the volume of Chinese cotton imports rose from 12 percent to 29 percent, and that of the Indian declined from 62 to 48 percent.

When in the second half of 1930 world cotton prices, especially American, were low, Chinese cotton imports reached record levels. In 1931, total imports amounted to 1,298,000 bales, of which 718,000 bales were American. While in 1932 total Chinese imports declined to 1,036,000 bales, imports of American rose to 865,000 bales. This steep rise, caused largely by the short Chinese crop of 1931 and the very low prices for American cotton, proved to be a phenomenon of short duration. The rise in Chinese production in the years following 1931, the improvement in quality of the native staple, the steady rise of foreign cotton prices, and the raising of the import duty on raw cotton from 42 cents per 100 pounds in 1929 to \$1.72 in 1934 reduced the demand for American to an insignificant quantity. The decline in imports was as precipitous as was the rise. From a record high of 865,000 bales in 1932, imports of American fell to 355,000 in 1933, 127,000 in 1935, and by 1936 had reached a low of 43,000 bales. Somewhat similar was the course of Chinese imports of Indian cotton. Altogether, imports of foreign cotton were reduced from a total of 1,308,000 bales in 1931 to 187,670 in 1936.

At present, only small quantities of American and Egyptian cotton are needed in China for spinning yarns above 40 count. Indian cotton is imported when prices of equal grade at Shanghai are below those of the Chinese staple. Were it not for the Sino-Japanese war and its immediate consequences, one would expect imports of foreign staple into China to continue insignificant except in years of small Chinese crops.

Yarn Output

The increase in cotton consumption by the Chinese textile industry is shown by the greater output of yarn and cloth. From an estimated total of 294 million pounds in 1913, yarn production increased to 773 million pounds in 1923 and to 1,286 million pounds in 1935. Because of the demand for coarse cloth, most of the yarn produced is of low counts. This is especially true of the Chinese-owned mills, where 82 percent of the output consist of 20s and below. In the Japanese-owned mills, the output of similar counts represents 54 percent. In comparing yarn counts produced in China with those produced in Japan, the United States, and the United Kingdom, it is found that the Chinese yarn is much coarser than the others. It is not possible to determine definitely comparable average counts for these countries, but Chinese and Indian yarns average 20s, Japanese 24s, American 26s, and the United Kingdom 36s. The small difference in average yarn count spun in China and in the United States is partly explained by the large quantity of industrial fabrics manufactured in the United States requiring comparatively coarse yarns. In China, on the other hand, the bulk of the yarn and fabrics is used for clothing.

Progress has been made, however, by the industry, and particularly by the Japanese mills, in the spinning of higher-count yarns. "Comparative data for the different periods are lacking, but some Chinese mills have begun to produce yarns with a fineness as high as 42s and 60s, and cases of alterations in equipment for the spinning of finer counts by a number of Chinese mills have been reported." ^{11/} The distribution of yarn production according to counts in Chinese- and Japanese-owned mills is shown in the following table:

Table 2. Distribution of yarn output according to fineness in Chinese- and Japanese-owned mills. ^{a/}

Yarn counts	Chinese-owned mills		Japanese-owned mills	
	1933	1935	1933	1935
	Percent	Percent	Percent	Percent
Below 11s	20.2	22.9	1.8	0.8
11-16s	39.1	32.5	28.0	24.0
17-20s	27.4	27.4	26.6	29.7
21-32s	10.1	14.0	17.2	20.8
Above 32s	3.2	3.2	26.4	24.7
Total	100.0	100.0	100.0	100.0

^{a/} *Monthly Circular*, Mitsubishi Economic Research Bureau, Tokyo, February 1938.

Compiled by Chinese Cotton Mill Owners' Association.

Decline in Yarn Imports

The expansion of yarn output, accompanied by high protective duties, has practically eliminated yarn imports into China. Prior to 1890, the volume of such imports was relatively small in comparison with the volume of imported piece goods. After 1890, and especially with the turn of the century, they increased so rapidly that from 1901 to 1917 imports averaged 316 million pounds, or an equivalent of 780,000 bales of raw cotton. The decline that commenced in 1917 has continued uninterruptedly, and the volume of imports was reduced from 329 million pounds in 1916 to only 1.3 million pounds in 1936.

^{11/} Ting, Leonard G., *Recent Developments in China's Cotton Industry*, China Institute of Pacific Relations, 1936, p. 33.

In appraising the significance of this decline in terms of American cotton, it should be noted that first India and later Japan were the chief sources of supply. Indian yarn shipped to China was made principally from Indian cotton, whereas the Japanese-made yarn imported into China contained considerable quantities of American cotton. Prior to 1914, when Indian yarn predominated in the Chinese market, American cotton used in the manufacture of the total volume of imported yarn was not large. In 1905, for instance, it was roughly estimated to be about 100,000 bales. As the share of Japanese yarn became greater, the volume of American cotton increased accordingly; namely, from approximately 125,000 bales in 1910 to a peak of roughly 200,000 bales in 1915, the latter being the year Japan first outstripped India as the main source of supply. But after 1920, China practically ceased to be a market for foreign yarn, and in 1936 American cotton imported into China in the form of yarn amounted to only 1,000 bales.

COTTON-GOODS CONSUMPTION AND DOMESTIC PRODUCTION

China has been for many centuries a large consumer of cotton goods. While relatively little clothing is used in summer, a considerable amount is worn during the winter, when several thicknesses of cotton are necessary or padded garments are used. On the whole, however, the per-capita consumption of cotton in China is very small. A study of cotton-cloth consumption in 37 countries revealed that China, with 10 yards per capita, was thirty-third on the list.^{12/} Only in Tanganyika, French West Africa, Bulgaria, and British West Africa was the per-capita consumption below that of China. It is the country's huge population, variously estimated between 400 million and 450 million, that creates the demand for some 4 or 4.5 billion yards of cotton piece goods annually.

To satisfy the country's cloth requirements, China now relies almost entirely upon domestic production, which has shown a marked rise in the past two decades. It was estimated that cotton mills in China produced only 45 million yards of cloth in 1915, as against 360 million in 1927 and 590 million in 1929. The rise has continued uninterrupted, and the output was more than doubled in 1936, when the volume was estimated at 1,220,000,000 yards. These figures, moreover, do not cover the total production of Chinese cloth but only that of the large mills. It is impossible to estimate with accuracy the cloth woven by the thousands of hand looms and small weaving plants scattered throughout China. When it is considered that the yarn consumed by all looms other than those in the large mills amounts to 75 percent of the total yarn output, it may be assumed that hand-loom weaving is responsible for the production of perhaps more than 3 billion yards of cloth.

IMPORTS OF AMERICAN COTTON IN FORM OF PIECE GOODS

The outstanding result of the increase in cloth output, most of which is directly competitive with similar types of imported goods and is protected from foreign competition by high tariff duties, was the rapid disappearance of foreign cloth from the Chinese market. This has a serious bearing upon foreign demand for American cotton. Not only has China recently been an important consumer of American raw cotton, but also, and for a much longer period, it has been an even more important consumer of American cotton indirectly through imports of finished goods. The ultimate consumption of raw cotton in the form of finished goods may be as far removed from the place of its manufacture as the latter is from the place where the raw cotton is grown. It is important to determine, therefore, the amount of American cotton used in the manufacture of cotton goods imported into China. One way of determining

^{12/} *The World Textile Industry*, International Labor Office, Geneva, 1937, I : 168.

this is to analyze the source of the various kinds of imported piece goods and estimate the quantity of American cotton utilized in their manufacture.

Table 3. Estimated equivalent of American cotton used in manufacture of cloth and yarn imports into China, and Chinese mill consumption of American cotton, 1936 with comparisons ^{a/}

Year	American cotton equivalent					Mill consumption of American raw cotton d/	Total
	Imports of cotton piece goods b/				Imports of cotton yarn ^{c/}		
	United Kingdom	Japan	United States	Total			
	1,000 bales	1,000 bales	1,000 bales	1,000 bales	1,000 bales	1,000 bales	1,000 bales
Annual:							
1910	330.5	58.7	49.2	438.4	124.9	-	-
1915	351.5	152.2	25.7	529.4	191.2	16.0	736.6
Average:							
1920-1924 ...	230.7	226.8	8.7	466.2	85.6	80.1	631.9
1925-1929 ...	159.0	321.3	2.3	482.6	37.3	238.5	758.4
Annual:							
1930	99.5	269.3	.8	369.6	6.3	340.1	716.0
1931	71.5	206.2	1.1	278.8	3.9	659.2	941.9
1932	100.2	228.7	3.3	332.2	18.5	949.9	1,300.6
1933	59.5	131.9	2.8	194.2	2.7	556.9	753.8
1934	16.7	46.7	.4	63.8	1.7	342.1	407.6
1935	10.0	57.1	.3	67.4	1.4	181.1	249.9
1936	7.2	22.4	.9	30.5	1.1	80.5	112.1

^{a/} Bales of 478 pounds net.

^{b/} Chinese cloth imports were used as the basis for these estimates. These figures are ordinarily given in pieces of cloth and were converted to equivalent bales of American cotton by use of factors computed from available information on sources of imports, quality or kind of cloth, mill practices in manufacturing countries, proportion of American cotton used in various countries, and estimated weights per piece. These figures are necessarily only rough estimates and are useful primarily in that they indicate definite trends.

^{c/} Chinese imports of cotton yarn were reported by weight and converted to equivalent bales of raw cotton on the basis of available information concerning the proportion of American cotton used in each country of origin and mill practices in particular countries.

^{d/} Chinese Mill Owners' Association.

From the United States

During the last decades of the nineteenth century and the first of the twentieth, imports of American piece goods into China were second in importance only to those of British. The peak was reached in 1905, when China imported nearly 12 million pieces of American grey and white goods. This represented 43 percent of total imports as against 45 percent for British and only 3 percent for Japanese. Imports of American goods began to decline very rapidly after the high level of 1905. This is largely attributed to the rapid development of the Japanese textile industry. Japanese mills, which placed on the Chinese market cheaper goods containing Indian cotton, forced American goods out of China. After 1922, the amount of American-made piece goods in the Chinese market became insignificant. It is estimated that during the heyday of American cotton goods in China, their equivalent in terms of raw cotton was approximately 380,000 bales. In 1910, or 5 years later, the volume was reduced to about 50,000 bales and in 1915 to 27,000 bales. Since then, and especially

in the late twenties and thirties, indirect consumption of American raw cotton in the form of American piece goods practically disappeared with the elimination of such goods from China.

From the United Kingdom

During the latter part of the nineteenth century and the first two decades of the twentieth, China was a great cloth-importing country. Prior to 1919, it was Lancashire's second largest outlet for cotton piece goods. Data for 1910 and 1915 show that China imported from the United Kingdom an approximate volume of 139 million and 145 million pounds of piece goods, respectively. But during the World War, Lancashire sustained a loss in the Chinese market, and for somewhat the same reasons as in the Indian; namely, curtailment of production, scarcity of shipping facilities, and ability of the Japanese to undersell British goods. In 1919, Japan replaced the United Kingdom as the principal supplier of piece goods, a position it has maintained ever since. The high tariff duties, the relatively higher cost of British goods as compared with Japanese, the low purchasing power of the population, and, of course, the rising domestic output of cloth brought about an almost complete elimination of English piece goods from the Chinese market. Thus in 1936, British goods imported into China amounted to not more than 3.5 million pounds - hardly a ghost of the former total.

The disappearance of Lancashire cotton goods from the Chinese market is a factor bearing on the reduction in British purchases of American cotton. To be sure, it is not so significant a factor as the shrinkage in exports of British piece goods to India; ^{13/} but the fact remains that in the decline of mill consumption of American cotton in the United Kingdom from an annual average of approximately 3.3 million bales during the 1909-1913 period to only 1.2 million bales during the years 1932-1936, China played its part. It is estimated, with a fair degree of accuracy, that in 1915 the volume of American cotton that went into the making of piece goods imported into China from the United Kingdom was approximately 350,000 bales. In 1936, this figure was reduced to a mere 7,000 bales. For this reason, the virtual elimination of British cotton goods from China reduced the British demand for American raw cotton to the extent of some 340,000 bales.

From Japan

As in the case of India, a part of the loss suffered by American cotton in the United Kingdom was for a time offset by the rising volume of Japanese goods imported into China. This increase is at least partly responsible for the rise in the consumption of American cotton by the Japanese textile industry. Import figures for the period 1902-1913, covering two leading types of cloth, grey and white, show that, while within this period the volume of British goods imported into China remained practically unchanged, imports of American were reduced by two-thirds and imports of Japanese were increased from 648,700 pieces to 5,647,823, or ninefold. ^{14/} This gain in the import of Japanese piece goods into China was brought about at the expense of the United States, British India, and the United Kingdom, in the order mentioned. Having outstripped the United Kingdom in 1919, Japan continued to expand until imports into China of Japanese piece goods in 1926 reached the peak of 242 million pounds. Until about 1929, imports of Japanese cotton goods continued at high levels.

^{13/} See *Foreign Agriculture*, April 1938.

^{14/} Odell, Ralph M., "Cotton Goods in China," *Special Agents Series*, No. 107, United States Department of Commerce, p. 51.

Table 4. Progress of cotton mills in China, and cotton-yarn production and distribution, 1936 with comparisons

Year	Cotton ^{a/}			Cotton yarn			
	Mills	Spindles installed	Looms installed	Cotton consumed ^{b/}	Production	Imports ^{c/}	Exports
	Number	Thousands	Number	Thousand bales	Million pounds	Million pounds	Million pounds
Average:							
1890-1894...	-	187	1,743	-	-	152 ^d	-
1895-1899...	-	514	7,333	-	-	241	-
1900-1904...	-	638	8,875	-	-	299	-
1905-1909...	-	810	9,183	-	-	309	-
1910-1914...	32	979	9,527	-	d/ 294	d/ 360	-
1915-1919...	43	1,440	12,599	-	e/ 551	e/ 177	d/ 37
1920-1924...	97	3,200	23,279	f/ 1,566	g/ 773	g/ 103	g/ 61
1925-1929...	122	4,087	29,272	2,005	h/ 1,118	h/ 36	h/ 179
Annual:							
1930.....	127	4,224	29,272	2,494	1,225	22	44
1931.....	130	4,210	33,580	2,470	1,224	6	82
1932.....	128	4,611	39,564	2,500	1,244	13	46
1933.....	133	4,708	42,313	2,537	1,262	4	72
1934.....	136	4,902	47,500	2,614	1,288	3	60
1935.....	139	5,022	51,879	2,467	1,189	2	32
1936.....	141	5,102	58,439	2,561	1,248	1	20
							976
							885
							949
							889
							906
							822
							834

^{a/} Chinese Cotton Mill Owners' Association and H. D. Fong's "Cotton Industry and Trade in China," Chinese Social and Political Science Review, October 1932.

^{b/} Bales of 478 pounds net.

^{c/} Chinese Maritime Customs Returns.

^{d/} 1913 only

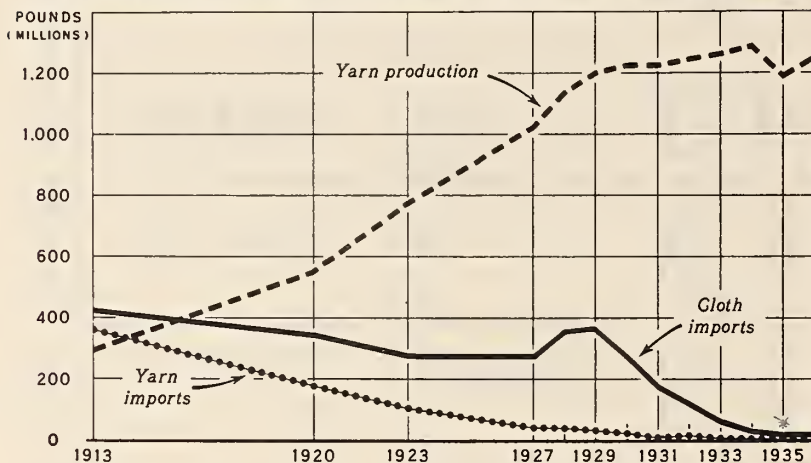
^{e/} 1920 only.

^{f/} Average 1921-1924.

^{g/} 1923 only.

^{h/} Average 1927-1929.

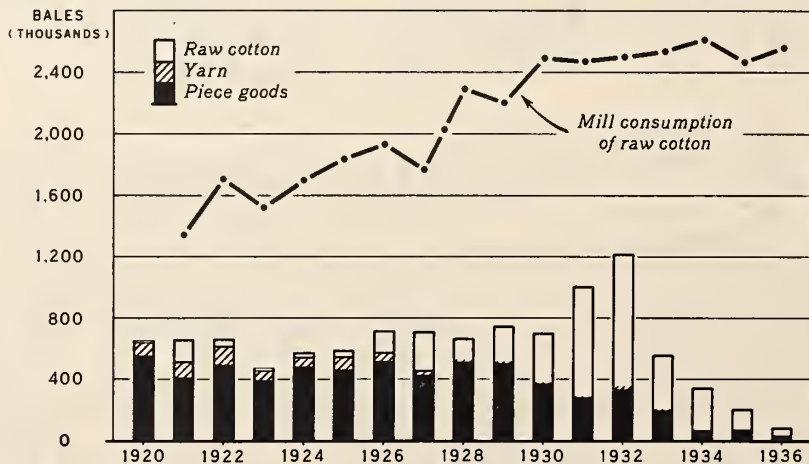
Foreign Agriculture

COTTON YARN PRODUCTION IN CHINA AND IMPORTS OF COTTON
YARN AND CLOTH INTO CHINA 1913, 1920, 1923, AND 1927-36

U. S. DEPARTMENT OF AGRICULTURE

NEG. 34588 • BUREAU OF AGRICULTURAL ECONOMICS

Fig. 1.

ESTIMATED AMERICAN COTTON CONTAINED IN CHINESE IMPORTS
OF COTTON CLOTH AND YARN, IMPORTS OF AMERICAN RAW COTTON,
AND CHINESE MILL CONSUMPTION OF ALL COTTON, 1920-36

U. S. DEPARTMENT OF AGRICULTURE

NEG. 34579

BUREAU OF AGRICULTURAL ECONOMICS

Fig. 2.

- - - - -

In the years following, the large import trade in piece goods built up in the course of decades almost disappeared. In 1936, the volume of cotton goods exported by China exceeded the country's imports. Under the impact of this development, caused by factors already mentioned, such as high duties and rising domestic output, Japan also began to lose ground; from 199 million pounds in 1930, Japanese goods imported into China declined in 1936 to only 12 million pounds.

It has been estimated that in 1910 Japanese piece goods imported into China contained approximately 59,000 bales of American cotton. With the rise in imports, this volume increased to an annual average of 321,000 bales during the period of 1925-1929. It may be noted at this point that the rise was large enough to compensate for the marked reduction in the volume of American cotton entering China through imports of British goods, which were being curtailed. But this position was not maintained in the 1930's; the rapid decline in the volume of Japanese piece goods on the Chinese market resulted in a definite decrease in the consumption of American cotton. In 1936, an estimated total of only 22,000 bales of American cotton went into the making of the Japanese piece goods that reached the Chinese market. This signified a net loss between 1929 and 1936 of almost 300,000 bales of American cotton.

ESTIMATED TOTAL LOSS IN CONSUMPTION OF AMERICAN COTTON

To sum up, it is apparent that in recent years American cotton has been rapidly vanishing from the Chinese market. When American piece goods, followed by those of British manufacture, were forced out of the Chinese market under the pressure of cheaper Japanese goods, the loss was at least partially compensated by increased Japanese purchases of American cotton. But in the past 4 or 5 years, imports of all foreign piece goods into China have declined to the vanishing point. In India, reduction in the final consumption of American cotton has been caused by the drastic decline in imports of British piece goods; in China, to the virtual disappearance of imported cotton goods must be added the equally sharp reduction in imports of American raw cotton, large volumes of which were imported in the decade of 1925-1934.

From 1910 through 1929, slightly less than 500,000 bales of American cotton went into the making of piece goods imported into China, but by 1936 the estimated volume had shrunk to only 30,000 bales. The total disappearance of yarn imports, which prior to and immediately after the war contained a considerable quantity of American cotton, is another factor in the elimination of American cotton from China. Chinese consumption of American raw cotton in 1936 declined to 80,000 bales compared with an annual average of 238,000 bales for 1925-1929, a total of 659,000 bales in 1931, and a peak of 950,000 bales in 1932. Leaving out of consideration the high levels attained in 1931 and 1932, it is estimated that, prior to 1930, the yearly consumption in China of American cotton in the form of raw staple, imported piece goods, and yarn exceeded 700,000 bales. In 1936, this volume was only slightly over 100,000 bales, indicating a net loss of 600,000 bales.

CONCLUSION

It has been indicated already that the precipitous decline in the direct and indirect consumption of American cotton in China was caused by the expansion of the textile industry and the increase in domestic cotton production. Until recent years, the country consumed an important quantity of foreign cotton, in the form of imported yarn, of piece goods, or of raw cotton; but today, in spite of a larger domestic consumption, China produces practically all of its own requirements. Under the conditions of relative tranquillity and gradually improved economy that existed in a

- - - - -

measure in China at the beginning of the Sino-Japanese war in the summer of 1937, the textile industry was primed for further expansion. It is likely that this development would have spelled a further diminution in the ultimate consumption of American cotton in China.

On the other hand, consumption of American raw cotton, as distinguished from American cotton utilized in the production of goods imported into China, might have been stimulated to a certain extent, despite the upward trend of cotton production in China. A long period of peace, accompanied by financial stabilization, economic reforms, the consequent improvement in the standard of living of the Chinese people, and increased consumption of cotton goods, particularly those made of yarn of finer counts, might have increased cotton consumption in China faster than Chinese production of raw cotton. Under such circumstances, greater imports of American, especially when prices were not out of line with those of competitive growths, might have taken place.

.

 . . .
 .

FARM AID IN POLAND . . .

Hally H. Conrad*

At the close of the World War, the newly established Polish Republic was confronted with a critical economic situation. Agricultural productivity, the mainstay of the country, had been almost completely destroyed by the ravages of occupying armies, and trade channels were blocked by dissensions within and hostile influences without. It was necessary for the Government to encourage agriculture, because food supplies were essential and the country, with its limited industrial development, was dependent chiefly upon agricultural exports for foreign exchange. Later, under depression conditions, the need for farm aid was intensified. As in many other agricultural countries, the Government became increasingly concerned with the farmers' plight. Among many farm-relief measures adopted, support of domestic agricultural prices by means of export bounties has been outstanding. Import restrictions designed to foster self-sufficiency in certain raw materials have also played an important part in the Polish agricultural program.

GEOGRAPHIC AND SOCIAL BACKGROUND

Slightly larger than the State of Montana, modern Poland has about 34 million inhabitants (January 1, 1937), occupying a total area of almost 150,000 square miles. It is predominantly an agricultural country with about two-thirds of its population dependent upon the land for a living, but the problems of agriculture have been complicated to a greater extent than in most countries by the general economic position of the country as it evolved after the World War.

Climate and Soil

Poland's geographic position corresponds roughly to that of the Prairie Provinces of Canada, but temperatures are more moderate and precipitation is greater. As compared with Western Europe, the climate is more continental in character. The winters are similar to those of the Soviet Union but are not so intensely cold nor so prolonged. The average January temperature varies from about 21° Fahrenheit in the eastern part of the country to 28° in the west. There is less variation in the summer; the average July temperature is around 65°. Precipitation is heaviest in June, July, and August, but rainfall occurs throughout the year. In western and central parts of Poland, the total precipitation during the year averages about 21.5 inches. This increases to the eastward and particularly toward the south, where in the mountainous regions an average of 43.5 inches has been recorded.

*Junior Agricultural Economist, Bureau of Agricultural Economics.



U. S. DEPARTMENT OF AGRICULTURE

NEG. 34517

BUREAU OF AGRICULTURAL ECONOMICS

Fig. 1

- - - - -

The soils of the country are of many varieties, but they belong largely to the Podzols, which require careful cultivation and large quantities of fertilizer to produce satisfactory crops. In western Poland there are some "brown earths" and "black earths" in spots, while toward the east are the poorer sandy soils. The best soils, however, are in the southern part, where "occur stretches of fertile loess soil, ultimately merging south-eastwards into the region of chernoziom (black earth) proper, but with an intermediate belt of what is termed degraded chernoziom which is also quite rich." ^{1/}

Regional Division

The new Polish State was made up of three separate units, with considerable economic and even cultural differences: The part which belonged to the former Russian Empire, consisting of Congress Poland, to which were added other Russian territories adjoining on the east; Galicia, which formerly belonged to the Austro-Hungarian Monarchy; and the Provinces of West Prussia, Posen, and eastern Upper Silesia, which formed a part of the German Empire prior to the war. It was therefore necessary in the process of consolidation to reconcile many conflicting interests. The farming methods, for instance, varied from the crude efforts of the poor peasants in the east to the rather highly specialized procedure followed by thriving farmers in German Poland. The sizes of the agricultural holdings showed a similar variation and ranged from farms too small to furnish even a simple peasant family with food to the large estates of the "landed barons."

Russian Poland - Congress Poland, together with the other territory formerly under Russian control, represents roughly about two-thirds of the present Polish State, in both area and population. It was fought over during the first year of the World War, and later on the German Army occupied its northern Provinces for about 3 years, while the Austrian forces were in the south. The German Army took a heavy toll from the country by taxation and the destruction of property but encouraged agricultural production for food supplies. The people, not having been allowed by the Russians to participate in the Government before the war, were entirely inexperienced in administrative affairs. Small farms and the scattered strip system of holdings predominated, although large estates were also found, particularly in the eastern sections. The purchasing power of the rural population was low and credit facilities were lacking. Industries, except around Warsaw and to the southwest, were not important.

Austrian Poland - In Galicia, the Austrian Poles had been encouraged to take part in governmental activities and were later to take the lead in organizing modern Poland, but economically this part of the country was even more handicapped and backward than Russian Poland. Density of rural population was great; there were about 243 persons per square mile, 80 percent of whom dwelt in the country or small villages. For the entire country, there were about 181 inhabitants per square mile, 75 percent of whom were classified as rural. The average acreage per farm was smaller in Galicia than in any other part of Poland. There were over a million farms having less than 5 hectares (12 acres) of land. Such farms constituted one-third of the total farming area, while 150,000 farms held the remaining two-thirds. Industry was undeveloped and trade in agricultural products poorly organized; Galicia was superior in one branch of agriculture only, that of stock breeding. It had been overrun by warring forces during the World War, and in 1919 some parts were suffering from famine and were dependent to a large extent upon imported foodstuffs and seed supplies.

^{1/} Kinvig, R.H., *Poland: Human and Economic Characteristics in their Geographical Setting*, Monograph No. 1-2, University of Birmingham, December 1938.

Table 1. Capital, production costs, and receipts of smaller holdings in Poland, annual 1931-32 to 1935-36, average 1931-32 to 1934-35

Year ^{a/} and item	Agri-cultural holdings consid-ered ^{b/}	Invested capital			Liabili-ties (debts)	Produc-tion costs ^{c/}	Receipts		Percent of capital
		Total	In lands	In buildings			Gross	Net	
		Zlote per hectare	Zlote per hectare	Zlote per hectare	Zlote per hectare	Zlote per hectare	Zlote per hectare	Zlote per hectare	Percent
1931-32	Number								
1932-33	437	3,166	1,833	840	384	286	297	11	0.35
1933-34	417	2,475	1,420	660	374	223	250	27	1.09
1934-35	513	2,068	1,143	552	366	193	230	37	1.79
1935-36	564	2,002	1,090	556	360	194	212	18	0.90
1935-36	200	1,861	1,016	516	321	186	235	49	2.63
Average:									
1931-32 to 1934-35	482	2,427	1,371	652	371	224	247	23	0.95
Central Provinces									
Eastern	175	2,153	1,236	490	367	214	245	31	1.44
Western	100	1,221	682	323	213	133	147	14	1.15
Southern	87	3,025	1,359	1,123	541	277	295	18	0.60
	120	3,275	2,070	788	375	272	292	20	0.61
2 - 3 hectares ...	12	3,574	1,784	1,314	584	432	428	4	-
3 - 5 " ...	48	3,268	1,872	919	381	327	345	18	0.55
5 - 10 " ...	155	2,583	1,530	625	403	246	272	26	1.01
10 - 15 " ...	118	2,371	1,348	622	336	205	234	29	1.22
15 - 30 " ...	125	1,969	1,040	569	340	171	193	22	1.12
30 - 50 " ...	24	1,925	1,014	557	400	156	165	9	0.47

^{a/} July-June.

^{b/} Holdings having 2-50 hectares except where broken down into smaller units.

^{c/} Interest charges on invested capital excluded.

Concise Statistical Year-book of Poland, 1937. 1 hectare=2.471 acres; 1 zloty =18.8 cents at current rate of exchange.

- - - - -

German Poland - The western part of Poland is made up of Provinces that formerly belonged to Germany. West Prussia and Posen are largely agricultural, but eastern Upper Silesia, which was incorporated into Poland following the plebiscite in 1922, is the most highly industrialized part of the country. Here are found rich coal and mineral deposits, upon which is based most of the industrial activity of this area. German Poland did not suffer greatly from the war, except for a shortage in commercial fertilizers, and had profited culturally and economically from its close connection with the German Empire. Marketing organization was more advanced, and transportation facilities were much more adequate than in other parts of the country. The cultivation of the soil was practiced on a more intensive scale, and a considerable processing industry, comprising distilleries, mills, starch factories, and the like, had been established.

Land and People

Poland, for the most part, is made up of plateaus and lowlands lying between the Carpathian Mountains on the south and the Baltic Sea on the north. Although predominantly flat, except in the Carpathians, the landscape is by no means uniform; many lakes, rivers, marshlands, and forests impart considerable variety to the country. About 66 percent of the population are Poles, but 15 percent are Ukrainians or Ruthenians, 10.5 percent Jews, 4.5 percent White Russians, and 4 percent Germans. Of the total population, three-fourths were classified in 1921 as rural, and the proportion of rural to urban showed only a slight decline by 1931. In the eastern Provinces, the rural population accounts for about 87 percent of the total.

Leaving out of consideration the special hardships suffered by some of the minority groups of modern Poland, the life of the Polish peasant has always been difficult, whatever the controlling government. Much has been done in recent years to encourage agriculture, but as late as 1934 "the peasants had the bare necessities of continued life and nothing more." ^{2/} In the northeastern Provinces, especially in the vicinity of the Prypec Marshes, where the land is poor and the climate severe, the privations endured are hard to visualize unless actually seen. "At the end of each winter cattle are reduced to moving skeletons. Horses, having exhausted their winter supply of fodder, are propped up in their stalls in the hope that spring may arrive in time for them to be carried to the pastures before death releases them from their sufferings. The peasants themselves are often in little better plight; mere skeletons racked with fever and malaria, their clothes skins and rags and their foot-coverings of bark cut from trees." ^{2/}

Conditions are not much better in southern and southeastern Poland, although the land is more fertile and the people less backward. Much of the difficulty must be attributed to the preponderance of agricultural holdings too small to maintain the average peasant family. As table 2 shows, 87 percent of the holdings of the southern Provinces had only 5 hectares (12 acres) or less. Taxation has become increasingly heavy, and facilities for agricultural credits are inadequate.

A movement recently started by the Government, known as the Central Industrial Zone Scheme, has benefited the peasants of central Poland to some extent, but only in German Poland is any degree of prosperity found among the small farmers. They have profited from the example set by their more up-to-date German neighbors and their proximity to the industrial centers. But even in this section, 60 percent of the farmers in 1921 had only 5 hectares (12 acres) or less. Net receipts on 482 farms ranging from 2 to 50 hectares (5-125 acres) during 1931-32 to 1934-35 averaged less than 1 percent on the capital invested. On farms of 5 hectares (12 acres) or less, net receipts were less than one-half of 1 percent.

^{2/} Tiltman, H. Hessel, *Peasant Europe*, 1934.



Fig. 2. Typical village scene in central Poland.

EARLY POST-WAR GOVERNMENT MEASURES

Land Reform

While Polish agriculture faced many problems at the close of the World War, inherited in part from the tripartite division of the country, it was early recognized that "it is the small farmer who is the determining factor in the development of Polish agriculture." ^{3/} This fact was largely responsible for the attention given to the question of land reform, greatly needed because of the unequal distribution of landownership. Although only 2.3 percent of the total number of agricultural holdings had from 20 to 100 hectares (49-247 acres) or more, they constituted 37.5 percent of the total farm land. Agricultural holdings of less than 5 hectares (12 acres) made up 71.6 percent of the total number but represented only 24.9 percent of the total farm land.

As early as July 10, 1919, a Land Reform Bill was passed, which it was hoped would iron out some of the inequalities in agricultural holdings. The quantity of land one person could own was limited, and it was intended that land thus set free should be used for the establishment of smaller holdings. The maximum amount of farm land to be owned by one person varied from 148 to 445 acres, although in German Poland and the eastern Provinces the maximum was about 1,000 acres. Certain exceptions were made for large-scale production, where special types of farming called for more extensive areas. Owners of large farms or estates were to be compensated for the expropriation of their lands, but the law called for the payment of only one-half the current price of the land; this was to be paid in State bonds bearing 4-percent interest. It soon became apparent that the financial resources of the country were not great enough to solve the land problem in this way.

^{3/} "International Review of Agriculture," Part 88, *Monthly Bulletin of Agricultural Economics and Sociology*, No. 5, May 1929, International Institute of Agriculture, Rome.

Table 2. Number of agricultural holdings in Poland, according to size, census of 1921 ^{a/}

Item and geographical division	2 hectares and less	2-5 hectares	5-20 hectares	20-50 hectares	50-100 hectares	Over 100 hectares	Total number
	<u>Thou-sands</u>	<u>Thou-sands</u>	<u>Thou-sands</u>	<u>Thou-sands</u>	<u>Thou-sands</u>	<u>Thou-sands</u>	<u>Thou-sands</u>
Number -							
Central Provinces..	271	364	550	29	3	7	1,224
Eastern " ..	80	210	268	20	3	4	585
Western " ..	123	41	85	22	4	4	279
Southern " ..	635	387	142	5	1	4	1,174
All Poland	1,109	1,002	1,045	76	11	19	3,262
Percentage of total -	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Central Provinces..	22.1	29.7	44.9	2.5	0.2	0.6	100.0
Eastern " ..	13.7	35.9	45.8	3.4	0.5	0.7	100.0
Western " ..	44.1	14.7	30.5	7.9	1.4	1.4	100.0
Southern " ..	54.1	33.0	12.1	0.4	0.1	0.3	100.0
All Poland	34.0	30.7	32.0	2.3	0.4	0.6	100.0

a/ On the basis of total area included in the holdings.

Concise Statistical Year-Book of Poland, 1936.

On December 28, 1925, another law was passed, which is still in force. It provided for self-supporting farms of various types and sizes. Small holdings were to be enlarged and strip farms consolidated. All land previously owned by the Governments of the occupying nations and that owned by one person in excess of certain stipulated amounts was to be parcelled out by the Polish authorities. In suburban areas or those adjoining industrial centers, one person could own only 148 acres; in other localities 445 acres were allowed; and under some conditions 741 acres might be owned if located in certain eastern districts. Exceptions were permitted in the case of highly industrialized farms, or those engaged in seed production or the livestock industry.

Compulsory parcellation is directed by district boards and the State Land Bank under the supervision of the Minister of Agriculture. Compensation is according to current land prices; but, if parcellation is not accomplished within the specified time limits, sales may be forced on the basis of assessments made by commissions composed of representatives of the Ministry of Agriculture, the Ministry of Finance, and three experts acting for the farmers.

In 1928, an Agrarian Reform Fund was set up, the purpose of which was to make loans to farmers to aid in the purchase or improvement of land. It is estimated that during the 18 years that have elapsed since the enactment of the first Land Reform Bill over 17 million acres of land have been reapportioned, but much still remains to be done to ease the peasants' existence. It is estimated that one-sixth of the rural inhabitants own no land at all, and industries have not developed rapidly enough to absorb them. With the natural increase of the agricultural population, the number of unemployed peasants increases each year. Formerly there was a seasonal emigration of these peasants into Germany, where they were employed by the large landlords during certain months of the year. Many also left Poland permanently to live in other lands; but, with the general restriction of immigration by foreign countries, the landless have had to look to their own Government for help. It is

true, however, that some have recently found employment in the mines of the Baltic States, and during the past season German landlords again resorted to Polish laborers.



Fig. 3. Sunday at a farmhouse in the Polish Corridor.

FINANCIAL STABILIZATION

In pre-war days, trade in what is now western Poland was carried on largely with Germany, and in eastern Poland products found a ready market in the former Russian Empire. When the new boundaries were established, such trade channels were closed. Furthermore, both domestic and foreign trade was hampered by the complex legal system resulting from the four codes of law being administered within the new boundaries of Poland - (1) the Code Napoleon in Congress Poland, (2) the German law in western Poland, (3) the Austrian system in Galicia, and (4) the Russian law in the eastern border Provinces. But even greater difficulties arose from the fact that three currencies were in circulation, the Russian ruble, the German mark, and the Austrian crown. The establishment of a national monetary system was necessary before uniform laws could be passed or any degree of economic stability attained.

The Germans introduced the mark currency into Poland in 1916 and established the Polish National Loan Bank, which had the right to issue bank notes. Under the burden of war expenditures, the mark declined in value and by February 1924, 1.8 million marks equaled 19.3 cents. In April of that year, a new monetary unit was adopted, the zloty, the par value of which was equal to 1 gold franc (19.3 cents). The Bank of Poland was organized to supersede the old Polish National Loan Bank and had the exclusive right to issue notes. For a short period, the zloty held its own; but, with heavy issues of treasury notes, there was a marked fall in its value during the latter half of 1925. A plan was worked out in 1927, largely on the advice of Professor E. W. Kemmerer, the American financial expert, stabilizing the zloty at 9 gold zloty to the United States dollar. A stabilization loan of \$71,733,000 was floated, in which the United States and five European countries participated.

Several measures were introduced to improve the financial system of the country, the budget was balanced, and Poland enjoyed a brief period of prosperity before the onset of the agricultural depression in the latter part of 1928.

PRICE AND MARKET MEASURES

Predepression

The characteristics acquired by each of the main units through years of association with Russia, Austria, or Germany, and the resulting differences in standards of living seriously interfered with economic integration and further delayed the development of trade. The strained relations existing between Poland and each of the former controlling countries forced Poland to seek markets farther removed, a task complicated by poor transportation and port facilities. Since their only access to the sea was through the free port of Danzig, which formerly belonged to Germany, the Poles felt that their scope for independent economic development was too limited and undertook to build their own port at Gdynia. In this they were animated by intense national pride as well as the realization of the danger and inconvenience of complete dependence upon Danzig for imported supplies in case of war. They also sought to improve their inadequate export organizations and to raise the inferior standards of Polish merchandise, which made it hard for their goods to compete in the markets of Western Europe.

Expansion of grain production - The most important crops of Poland are rye, potatoes, barley, wheat, oats, and sugar beets. While all suffered from the effects of the World War, pre-war levels of production were soon attained or surpassed through the encouragement given to producers by Government authorities. This was especially significant in the case of grain, prices of which were supported by Government purchases. Subsidies were also granted for fertilizers and farm machinery.



Fig. 4. Market scene near Warsaw.

The average production of rye and wheat, as well as of potatoes and sugar beets, surpassed the 1909-1913 average by 1926-1930. The barley crop of 1928 and the oat crop of 1929 exceeded the respective pre-war average production of these grains, but both crops have since declined. Rye production, in which Poland ranks third in importance after the Soviet Union and Germany, expanded so rapidly that by 1929 a burdensome surplus had accumulated.

Table 3. Acreage and production of principal crops in Poland,
average 1921-1925, 1926-30, 1931-35, annual 1928-1937

Item and period	Rye	Potatoes	Oats	Wheat	Barley	Sugar beets
ACREAGE	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres
<u>Average:</u>						
1921-1925.....	12,911	5,443	4,446	2,957	2,547	327
1926-1930.....	14,078	6,250	5,125	3,477	2,905	516
1931-1935.....	14,160	6,816	5,458	4,333	2,993	294
<u>Annual:</u>						
1928.....	13,197	6,189	5,036	3,187	2,857	579
1929.....	14,328	6,513	5,416	3,526	3,110	590
1930.....	14,567	6,602	5,404	4,066	3,048	457
1931.....	14,263	6,715	5,367	4,495	3,144	367
1932.....	13,951	6,709	5,487	4,265	2,982	287
1933.....	14,271	6,770	5,447	4,187	2,882	245
1934.....	14,023	6,913	5,466	4,385	2,944	277
1935.....	14,292	6,972	5,521	4,334	3,011	293
1936.....	14,409	7,150	5,572	4,305	2,932	300
1937.....	14,141	7,360	5,671	4,183	3,046	365
PRODUCTION	1,000 bushels	1,000 bushels	1,000 bushels	1,000 bushels	1,000 bushels	1,000 short tons
<u>Average:</u>						
1921-1925.....	206,884	807,919	120,813	48,708	49,850	2,926
1926-1930.....	245,242	1,017,519	163,667	64,197	65,596	4,836
1931-1935.....	251,697	1,140,990	172,674	72,580	66,425	2,659
<u>Annual:</u>						
1928.....	240,545	1,016,339	172,076	59,219	70,143	5,404
1929.....	275,959	1,166,592	203,450	65,861	76,233	5,479
1930.....	273,923	1,135,455	161,736	82,321	67,236	5,200
1931.....	224,500	1,138,617	159,108	83,220	67,779	3,044
1932.....	240,556	1,101,364	164,713	49,472	64,339	2,622
1933.....	278,460	1,040,934	184,838	79,883	65,949	2,042
1934.....	254,472	1,229,815	175,729	76,441	66,617	2,829
1935.....	260,498	1,194,222	178,981	73,884	67,440	2,756
1936.....	250,536	1,259,609	181,886	78,357	64,365	2,817
1937.....	221,949	1,477,849	161,410	70,775	62,620	3,578

Compiled from official sources.

Encouragement of the livestock industry - Livestock, which is also very important in Polish agriculture, suffered especially from the effects of the World War. Numbers were reduced and quality was lowered. In the early 1920's, lack of funds, the small-scale type of farming, and uncertainty as to future conditions made reconstruction work rather slow; but even then the Government showed an interest in having

farms restocked and aided in the improvement of breeds in various ways. Credits were allowed, especially to the poorer farmers, and subsidies were extended through the State Agricultural Bank in part payment for instruction and for the purchase of improved stock. While most of the stock-breeding activities were in the hands of private individuals and farmers' associations; the agricultural departments of various educational institutions were helpful in the work, and all were directed to some extent by Government regulations originating in the Animal Husbandry Department of the Ministry of Agriculture and State Domains. National policy favored a breeding plan that would result in uniform standards. This was furthered by periodical horse shows; milking competitions, in which butterfat content was stressed; sheep shows and hog shows, with attention given to the meat and lard. Poultry and egg production also received encouragement.

Table 4. Numbers of livestock in Poland, average 1921-1925, 1926-1930, 1931-1935, annual 1929-1937

Period	Horses	Cattle	Pigs	Sheep	Goats
	<u>Thousands</u>	<u>Thousands</u>	<u>Thousands</u>	<u>Thousands</u>	<u>Thousands</u>
Average:					
1921-1925 ^{a/}	3,290	8,063	5,287	2,193	418
1926-1930 ^{a/}	4,073	9,019	5,736	2,244	194
1931-1935.....	3,872	9,450	6,546	2,600	288
Annual:					
1929.....	4,047	9,057	4,829	2,321	202
1930.....	4,103	9,399	6,047	2,492	227
1931.....	4,124	9,786	7,321	2,599	237
1932.....	3,940	9,461	5,844	2,488	248
1933.....	3,773	8,985	5,753	2,557	278
1934.....	3,764	9,258	7,091	2,554	321
1935.....	3,760	9,759	6,723	2,802	355
1936.....	3,824	10,198	7,059	3,024	383
1937.....	3,888	10,547	7,672	3,183	403

^{a/} 5-year average if available; otherwise for any year or years within the period.

Under this stimulation, livestock numbers increased rapidly, exports of animals and animal products accounting for 17.5 percent of Poland's foreign trade in 1926-27 and 25.1 percent in 1930-31.^{4/} Hogs occupy the most important place in the Polish livestock industry, and pork is the most important single meat in the diet of the people. Prior to 1929, livestock exports consisted largely of live hogs, a large part of which went to Austria and Czechoslovakia. Restrictions in these markets and in Germany forced Poland to seek other outlets. Bacon exports received more attention, and the bacon industry showed considerable expansion in the period 1928-1931. Shipments to the United Kingdom increased in volume until practically all the bacon exported by Poland was absorbed by this market.

Export taxes - Although eager to build up its foreign trade, in 1923 Poland introduced a system of export taxes, which amounted to virtual prohibition on a number of agricultural products. These were levied for various purposes. Sometimes they were used to discourage the export of certain commodities in years of reduced

^{4/} Douglass, Paul F., *The Economic Independence of Poland*, 1934.

domestic supplies or when export prices were high enough to threaten the sale abroad of too large a part of domestic stocks, thereby raising internal prices and increasing costs to consumers; sometimes, especially in recent years, they were placed on goods not meeting specified standards of quality and therefore considered by the Government to be detrimental to Poland's standing in foreign markets. They became in some instances a counterbalance to export bounties, first paid in 1929 on exports of hams and bacon and later extended to other products. The bounties, which were primarily intended as a price-stabilizing medium, were sometimes granted to those firms only that complied with official standards and grades; they were in such cases in the nature of a reward, while the export taxes might sometimes be regarded as a punishment for nonobservance of Government ideals. On the other hand, the Government sometimes issued certificates for free export to those companies meeting requirements as to standards on products that otherwise would come under the export tax.



Fig. 5. Market day in a village near the East Prussian Border.

Trade agreements - As early as 1920, Poland began negotiating commercial agreements with foreign countries, although they could not be effected until the boundary questions were definitely settled. In general, the agreements made were based on the principle of most-favored-nation treatment. One of the most important, that with the United Kingdom, went into effect July 1, 1924. Considerable difficulty was experienced in making satisfactory arrangements with Germany and Russia, but by 1930 treaties were concluded with practically all other European countries.

Customs tariffs and monopolies - Since the industrial activity of Poland had suffered severely from the war and the changes in boundaries, it was necessary for the Government to take steps to promote its recovery, while at the same time encouraging agricultural production. A temporary customs tariff was established in January 1920. The primary object of this was to protect industrial interests and to permit the free import of raw materials and such articles as could not be advantageously produced at home. The depreciation of the currency forced many changes

- - - - -

in the tariff schedule, however, and in 1924, after the introduction of the zloty, a new customs tariff was enacted. This tariff law was also definitely protective in character, and many agricultural products were affected by it. There was no duty on grain imports, but wheat flour, rice, fruits, coffee, tobacco, oxen, cows, and fish were included on the list. In December 1925, the rates on wheat flour, oxen, cows, and fish were increased, while duties on articles used in agricultural production, such as fertilizers and machinery, were reduced. At this time, also, duties were first imposed on hogs, horses, and poultry, and an unsuccessful effort was made to place them on grains.

In 1920, the most important Polish industry based on agriculture was the sugar industry. It was under Government control until November 1, 1921, and later came under the restrictive measures of the Chadbourne Plan. The sale of alcohol, which is the second most important industrial product in Poland dependent upon agriculture, was under Government control as early as 1921, and in 1925 an alcohol monopoly was established. Government monopoly of the tobacco trade went into effect in June 1922. A permit to grow tobacco was necessary and had to be secured from the Tobacco Monopoly, to which it was obligatory to sell the entire domestic crop at prices fixed according to classes and grades.

Depression

The agricultural depression in Poland was similar to that experienced in other countries in that it was characterized by a marked decline in agricultural prices and a much slower fall in industrial prices. Since the economy of the country was so greatly influenced by the predominance of agriculture in its structure, and since the country was still in a state of transition and had not had time to build up a strong financial foundation, the depression struck Poland with particularly heavy force. A short period of prosperity had followed the stabilization of the currency in 1927 and the restoration of agricultural productivity. Prices of farm products reached a high level, which tended to encourage an intensification of agricultural production. The consequent expansion in production resulted in export surpluses of various farm products. In the early post-war years, grain had been exported in seasons of good crops, but in 1927-28 Poland became definitely a grain exporter and was forced to meet the problem of overburdened markets that all surplus-grain countries faced during the world depression.

In the intensification of agriculture, it had been necessary for farmers to make heavy outlays in fertilizers and agricultural machinery. These, with capital investments in land and buildings, made for heavy farm indebtedness and higher costs of production. As agricultural prices fell, the relation between the cash receipts of farmers and their expenditures became more and more unfavorable. Thus, the essential domestic problem of the Polish agricultural depression resolved itself largely into the adjustment of agricultural production costs to the level of prices received for farm products. Low agricultural prices determined by world conditions came to be accepted as a basic fact that would not be changed in the immediate future. The Polish Government, therefore, had to consider the problem of the downward adjustment of farm costs. In this connection, farm indebtedness, fiscal charges, transportation rates, and wages had to be treated. Price-supporting measures already in operation were strengthened or revised to meet depression conditions, but all methods employed were gaged by their possible effect on the national financial situation, the disruption of which would have destroyed the reconstruction work that had been carried on with such great difficulty following the World War.

Changes in tariff duties - During and after 1928, many agricultural products, among them the grains, were added to the import-tariff list, and many rates were

increased. In some cases, the increases were largely revaluations of the tariff in terms of the zloty; in others, they were measures of protection or retaliation against the high barriers imposed by other countries on imports. On March 6, 1931, duties on rye, barley, oats, wheat, and all kinds of flour were increased. Similar advances took place by the end of the same year in the duties on animal and vegetable fats and oils, fresh and salted pork, lard, smoked bacon, margarine, and artificial edible fats. Permits could be granted, however, by the Ministry of Finance for imports of bacon and lard under the lower rates previously in force. A rather unique development in Poland was the imposition of lower rates on goods coming by sea than on those coming overland. This was partly an attempt to build up business for the new port of Gdynia.

In addition to the regular import duties of Poland, there is also a customs handling tax payable on goods imported or exported. On January 14, 1931, this tax was increased from 10 to 20 percent of the duty on the usual commercial shipments. Special rates of the handling tax on duty-free shipments and imports for reexport were also doubled.

As world trade barriers increased and Poland became more industrialized, it was felt that an entirely new tariff system was necessary. A special committee, representing the various interests of Poland, was appointed to work to this end, and on October 11, 1933, the new law went into effect. In place of the previous general-conventional tariff, a maximum-minimum tariff was established, with conventional rates below the minimum. Conventional rates are given to countries entitled to them by trade agreement, and minimum rates are usually so applied. Pledges of unconditional most-favored-nation treatment have been given to a number of countries, including the United States. The conventional tariff reductions given in about 20 agreements have been passed on to the countries having most-favored-nation treatment. The value of these low rates has, however, been greatly lessened by the imposition of quotas and other quantitative measures of control. All imports, except under import licenses, have been prohibited, and in April 1936 foreign-exchange control was introduced, with the result that Poland's control of trade is now somewhat similar to that of Germany and Italy.

Import licenses and contingents - The importation of a number of commodities was curtailed through import licenses or the application of contingents, or quotas, even before the agricultural crisis. Importers were required to get import licenses from the Polish Ministry of Commerce and Industry before bringing certain articles into the country. A decree of December 29, 1931, announced that permits would have to be secured for all imports beginning January 1, 1932. It was stated that world economic conditions were such that Poland had to protect its interests by "temporary but absolute prohibitions" against imports of goods that could be produced in Poland, or those considered nonessential to the national economy. The list included cereals and pulse; flour, meal, groats, and malt; potato flour, starch, vermicelli, and macaroni; vegetables and pot herbs; fresh, salted, or boiled fruits (citrus fruits, grapes, and pineapples excepted) and berries; all prepared fruits and berries; hops; fresh or salted sausage casings; raw hides and skins; certain vegetable oils; condensed milk; and many manufactured goods.

The list of "nonessentials" was subsequently revised; and articles specified could not be imported unless Poland had a favorable balance of trade with the country of origin, or the balance was at least in equilibrium. Such goods were brought in only when import contingents had been arranged for by the Government. When these quotas were set up for the United States, it was provided that the value of the imports had to be offset by exports to the United States of specified Polish articles. The exportation from Poland was supposed to be in advance of the importation, but it

could be as much as 3 months later, provided 20 percent of the value of the imported article was deposited as security to the credit of the Polish Chamber of Industry and Commerce.

Export bounties - One of the most effective methods employed by Poland to check the fall of domestic agricultural prices was granting export bounties. Negotiable customs receipts were issued on exports of certain products. These receipts had a fixed value. In some cases they could be applied to the payment of customs duties on imported merchandise; in other cases they had a cash value at specified customs offices. They were similar to the "import certificates" of Germany, except that they were applicable to a wider range of products and were sometimes redeemable in cash.

Since the function of the customs certificate, or export bounty, in Poland was primarily to check the fall of internal prices to the level of world prices, they varied in value from one period to another and were intermittently applied first to one commodity and then to another, depending upon the situation of the domestic market. As applied to agricultural products, they were first decreed for hams and bacon, as of January 1929, in the amount of 15 zlote per 100 kilograms (about 76 cents per 100 pounds). In November of the same year, premiums on grain exports were fixed at 4 zlote per 100 kilograms for oats and barley (6 and 10 cents per bushel, respectively) and 6 zlote per 100 kilograms of wheat and rye (18 and 17 cents, respectively). On all kinds of flour a bounty of 9 zlote per 100 kilograms (46 cents per 100 pounds) was paid. Other products came under the system later on, but it was used mostly in connection with the grain trade, especially that of rye. In 1932-33, 48.9 million zlote were so expended; in 1934-35, 75.8 million. Large parts of both sums were used for premiums on grain exports, probably more than a third of each.

Polish-German rye agreements - Poland became an important exporter of rye in 1928 as a result of the expansion of acreage following the encouragement given grain producers through Government purchases. As exports increased, they came into competition with German rye, particularly in the Scandinavian market. The subsequent decline in prices influenced Poland and Germany to enter an agreement for handling rye exports from the two countries. The first Polish-German Rye Agreement was signed on February 16, 1930, to be effective until July 1, 1930. The German Grain Trading Company was formed to represent German interests, and the Polish Grain Monopoly handled Polish transactions. Both countries paid export bounties on their own shipments. Minimum prices were fixed and the export market was divided between the two countries; 60 percent of the combined rye sales were supplied by Germany, 40 percent by Poland. Though not compelled to market their rye through the joint commission, the subsidies granted to exporters resulted in a virtual monopoly.

Poland was not satisfied with its share of the sales, however, and a new agreement was made on July 12, 1930, permitting to Poland a higher percentage of exports under certain conditions. Sales under this arrangement were heaviest during June-September 1930, when they averaged 1,772,000 bushels monthly, but then they began to fall off. Since Germany stopped issuing export credit certificates soon after the first agreement was made, Poland, continuing its bounty, made the larger part of the combined sales effected during the life of the agreements. By June 1931, growing competition from Russia and large crops in importing countries reduced exports to such an extent that the arrangement between the two countries came to an end.

The exportation of rye and wheat was handled by private concerns for a short time after the termination of the second Polish-German Rye Agreement. In August

1931, a special organization was set up under the direction of the Polish Government, known as the Polish Rye and Wheat Export Bureau. Export sales were concentrated through this agency in an effort to curtail competition among Polish exporters.

On November 25, 1933, however, another rye agreement was made with Germany, the purpose of which was said to be "to influence the world price of rye and rye flour." Each country agreed not to sell rye abroad except through its central agency, which was to be under the auspices of the Government. These two agencies, or bureaus, acting jointly were to obtain and maintain the best possible market for rye exports, and neither was to sell below the price fixed by the two agencies. If either bureau failed to make a sale on two consecutive days, it could request the other to lower the price fixed. The other would either have to accede to this request or purchase at the existing price the available stock of the bureau making the request. Unlike the earlier agreements, in this no provision was made for a definite distribution of exports between the two countries.

This agreement was renewed upon its expiration on August 1, 1934, and was extended to include exports of wheat and wheat flour. On October 3, 1934, the Soviet Union also became a party to the agreement but only insofar as rye and rye flour were concerned. Russian wheat, it was pointed out, differed materially from Polish and German wheats and could not be handled in the same manner in foreign markets. It was stipulated in the agreement that one country could not have more than 28,000 short tons of unsold rye and rye flour stored in a European port without the consent of the other two countries. Some attempt was made to induce Hungary also to enter this agreement; but, having only a small rye surplus and being reluctant to handle its wheat exports in the manner prescribed, Hungary was not interested in participating. Although the Polish-German-Soviet Agreement was renewed upon its expiration July 31, 1935, it is said to have accomplished little of value in the way of controlling prices.

Aids to domestic grain market - Besides the activity on behalf of grain exports, intervention purchases through the State Grain Company to support the domestic market were particularly heavy during the period 1932-1934. Because they were usually hard-pressed for cash, it was customary for Polish farmers to sell as much of their grain crops as possible immediately after the harvest. This resulted in a great variation in the autumn and spring prices of grain. In order to stabilize prices throughout the year, the State Grain Company began making purchases of grain as early as 1930-31. The surplus of grain so obtained was sold on the home market or exported at current prices; but there was an agreement made with private exporters so that the level of export prices was not unduly affected. To avoid accumulation of abnormal stocks, credits were issued to those farmers who would agree to store grain on their farms until the spring months. These loans were secured by the grain stocks and were granted at low rates of interest in amounts ranging from 60 to 70 percent of the value of the grain stored. They could be repaid in installments payable from January to June of the year following the harvest.

As the level of world grain prices increased in 1935-36, the Polish Government reduced its intervention purchases but continued its loans secured by grain stored on farms. Farmers, however, made less use of these credits as their financial condition improved. The Government then began to weaken the official status of the State Grain Company by vesting some of its functions in agricultural marketing cooperatives. On August 30, 1935, it was decreed that 50 percent of the grain exports should be effected by the State Grain Company, 30 percent by the cooperatives, 15 percent by the Dantzig exporters, and 5 percent by Polish traders in general. In 1936-37, an attempt was made to put the activities of the State Grain Company on an ordinary business basis. It was reorganized and placed under the Ministry of

Agriculture instead of the Ministry of Finance as had been the case. There began to be at this time a tendency toward shifting the emphasis from grain benefits to the aid of other farm commodities, such as livestock products.

To conserve grain, particularly rye, for export, extraction ratios for the milling of flour were fixed in a law of December 7, 1928. "The grinding of wheat to high-quality flour other than at a 65-percent extraction ratio" was prohibited. The extraction percentage for rye flour was 70 percent for high-quality flour. This ratio was changed to 60 percent in August 1930. Regulations governing extraction were abrogated, however, when the flour was intended for export. In the fall of 1932, a decree temporarily established the following extraction ratios for rye flour milled for domestic use: 55 or 65 percent for high-grade flours; up to 70 percent for flour not so good; and over 70 percent for "black bread rye flour." In the spring of 1937, after the rather short rye crop of 1936, the rate of extraction for all grades of rye flour was placed at 70 percent. In the following summer, all restriction on the milling of wheat flour was removed, and the four grades set up for rye flour specified the following extraction percentages: 50, 65, from 50 to 65, and 95 percent. The admixture of potato flour and rye bran to rye flour has also been permitted in order to conserve rye.

Other measures of assistance extended to grain producers include reductions in freight rates on grain shipments to both domestic and foreign markets. Furthermore, action has recently been taken by the Government to erect grain elevators, which are expected to exert a marked influence on the grain trade. These are to be located at the port of Gdynia and at several interior points.

Reduction of industrial prices - In addition to the measures adopted for the support of agricultural prices, the Polish Government also sought to increase the purchasing power of the farmers by lowering costs of production through a reduction in prices of certain manufactured goods used on farms. This task was approached by way of the cartelized industries, particularly those controlling raw materials. The reduction in prices was brought about by means of voluntary agreements with interested industries and industrial organizations, to which the Government in turn gave assistance in the form of lower taxes and reduced freight charges, etc. All the more important industrial products used by farmers were affected, such as coal, iron, petroleum, and certain textiles.

Pressure had to be exerted in only a few instances to achieve the results desired. The cement cartel, for one, because of keeping the price of cement at an artificially high level, was dissolved under the powers of the Polish Cartel and Trust Law. In connection with such activity, the Government itself set a good example by lowering prices of fertilizers produced by the State Nitrate Factories and the State Potash Salt Mines. Prices of other articles under State monopoly were also decreased as well as certain public taxes and duties.

AGRICULTURAL FINANCE

Relief of Farm Indebtedness

It is estimated that the total indebtedness of Polish farms amounted to over 4,600 million zloté (about \$514,000,000) in 1932. Short-term debts were estimated at about 1,800 million zloté, and the annual interest due on the whole debt, at 414 million zloté. Cash receipts totaled not more than 2,200 million zloté in 1933-34. The precarious status of the farms, therefore, threatened the standing of national credit. The first measures adopted by the Government to relieve the debt-burdened farmers were fragmentary and temporary aids, but they were gradually extended and

developed until they covered all phases of agriculture. Beginning in 1932, a number of decree laws were passed to regulate farm debts, which were divided into 5 principal classes: ^{5/}

1. Arrears of payments due to the Treasury and to other public corporations.
2. Indebtedness to long-term agricultural-credit institutions.
3. Long-term indebtedness to private individuals.
4. Short-term indebtedness to credit institutions.
5. Short-term indebtedness to private individuals.

Debts incurred through the Land Reform Bill and those owed to State banks were treated separately.

Special organizations were set up to deal with the problems of agricultural indebtedness, called Offices for Agricultural Financial Business. Besides the central office located in the capital, there was one in each Province, and one in each subprefecture. To these were intrusted the execution of the various provisions of the decrees relating to the different types of debts.

The Government dealt first (in 1932) with the debts of Class 1 and provided for a reduction in arrears due the Treasury if current charges were paid promptly and part payment made on the arrears due July 1, 1932, within prescribed periods. Interest charges were also reduced.

A moratorium was granted on long-term indebtedness due agricultural credit institutions (Class 2), and such debts, together with arrears in payments, were converted to other long-term debts to be repayable over a period of 55 years. Interest was reduced to 4.5 percent, and the commencement date for repayment of the capital on the installment plan was postponed for 3 years. Similar arrangements were made for long-term debts owed to private individuals, but the maximum rate of interest was placed at 6 percent. Repayment of capital was postponed until January 1, 1938, but payments of interest were made compulsory.

Short-term indebtedness (Classes 3 and 4) was classified according to the size of the farms involved. Debts on the smaller farms, up to and including 1,236 acres, received considerably more liberal treatment than those on larger farms. When owed to an institution, they were converted into long-term obligations, bearing interest at a reduced rate, through a State bank established especially for handling such paper. When owed to an individual and contracted prior to July 1, 1932, they were subjected to arbitration, after which a moratorium was declared and conversion into long-term debts at reduced interest was effected.

Although some benefit has accrued to Polish agriculture by the complex legislation passed to relieve farm indebtedness, the results achieved are said to be inadequate. ^{6/} The servicing of the debts incurred before July 1, 1932, including amortization, is too costly in relation to the productivity of the land. Such charges are particularly high on the debts of the small farms. A peasant farm encumbered to the full value allowed has to meet charges equivalent to about a third of its productive capacity. Very few of these farms are able to avail themselves of long-term mortgages, the cheapest form of credit, with the result that actual charges borne by peasant farms may be even higher.

^{5/} *The World Agricultural Situation in 1934-35*, International Institute of Agriculture, Rome.

^{6/} American consul, Warsaw, January 15, 1938.

Table 6. Principal commodities imported into Poland,
average 1930-1934, annual 1928, 1929, 1935-1937

Item	In million zloté						In thousand dollars					
	1928	1929	Average 1930- 1934	1935	1936	1937	1928	1929	Average 1930- 1934	1935	1936	1937
Raw cotton and waste	326	271	124	114	127	142	36,544	30,336	16,577	21,526	23,971	26,871
Wool and waste.....	181	198	93	73	103	107	20,290	22,164	12,433	13,784	19,441	20,248
Machines, apparatus, elec. equipment...	391	373	109	70	90	118	43,830	41,754	14,572	13,218	16,987	22,329
Scrap iron.....	75	76	26	26	37	87	8,407	8,507	3,476	4,909	6,984	16,463
Chemical and pharma- ceutical products; paints.....	217	227	90	52	64	67	24,325	25,410	12,032	9,819	12,080	12,678
Hides, raw.....	74	42	30	33	40	47	8,295	4,701	4,011	6,231	7,550	8,894
Means of transport..	124	120	30	27	32	43	13,900	13,433	4,011	5,098	6,040	8,137
Furs, raw.....	65	71	35	25	33	37	7,286	7,948	4,679	4,721	6,229	7,002
Fruits and edible berries.....	36	41	31	39	33	35	4,035	4,590	4,144	7,364	6,229	6,623
Ores, slag, and ashes	85	105	31	16	18	34	9,528	11,754	4,144	3,021	3,397	6,434
Tobacco and tobacco products.....	36	52	34	21	23	31	4,035	5,821	4,545	3,965	4,341	5,866
Rags.....	36	27	12	14	23	29	4,035	3,022	1,604	2,644	4,341	5,488
Copper, copper sheets.....	32	38	11	11	16	29	3,587	4,254	1,471	2,077	3,020	5,488
Paper and paper goods.....	67	67	33	21	19	26	7,510	7,500	4,412	3,965	3,586	4,920
Textile goods, garments.....	151	146	60	21	22	25	16,927	16,343	8,021	3,965	4,152	4,731
Herrings, fresh and salted.....	45	49	26	16	19	23	5,044	5,485	3,476	3,021	3,586	4,352
Coffee, tea, cocoa..	71	70	36	19	19	23	7,959	7,836	4,813	3,588	3,586	4,352
Fats and oils, plant and animal.....	98	111	43	15	19	21	10,425	12,425	5,749	2,832	3,586	3,974
Yarn, tops.....	157	140	56	22	28	31	17,599	15,672	7,487	4,154	5,285	5,866
Others.....	1,100	887	330	226	238	299	123,309	99,290	44,116	42,675	44,923	56,578
Total.....	3,362	3,111	1,240	861	1,003	1,254	376,870	348,245	165,773	162,577	189,314	237,294

Bureau of Agricultural Economics.

Table 7. Principal commodities exported from Poland, average 1930-1934, annual 1928, 1929, 1935-1937

In million zloté							In thousand dollars					
Item	1928	1929	Average 1930- 1934	1935	1936	1937	1928	1929	Average 1930- 1934	1935	1936	1937
Rye, including flour	4	60	50	53	48	21	448	6,717	6,685	10,008	9,060	3,974
Barley.....	46	82	32	33	46	40	5,157	9,179	4,278	6,231	8,682	7,569
Wheat, including flour.....	1	3	18	16	24	7	112	336	2,406	3,031	4,530	1,325
Oats.....	3	11	4	11	11	5	336	1,231	535	2,077	2,076	946
Total grains.....	54	156	104	113	129	73	6,053	17,463	13,904	21,337	24,348	13,814
Timber and wooden goods.....	589	481	204	155	163	199	66,025	53,843	27,272	29,268	30,766	37,657
Coal.....	363	384	242	131	130	185	40,691	42,985	32,352	24,736	24,537	35,008
Hams and loins, canned.....	-	-	a/ 6	10	33	60	-	-	802	1,888	6,229	11,354
Bacon.....	2	46	36	39	39	46	224	5,149	4,813	7,364	7,361	8,705
Textile goods.....	70	119	55	27	27	40	7,847	13,321	7,353	5,098	5,096	7,569
Zinc and zinc dust..	144	152	52	23	26	39	16,142	17,015	6,952	4,343	4,907	7,380
Eggs.....	145	143	69	27	28	34	16,254	16,007	9,224	5,098	5,285	6,434
Pigs, live.....	208	185	49	16	26	29	23,316	20,709	6,551	3,021	4,907	5,488
Iron and steel.....	10	31	42	19	24	28	1,121	3,470	5,615	3,588	4,530	5,298
Meat, fresh, chilled, salted.....	69	45	18	8	17	23	7,735	5,037	2,406	1,511	3,209	4,352
Flax and waste.....	17	20	5	15	23	20	1,906	2,239	668	2,832	4,341	3,785
Butter.....	66	88	27	10	21	19	7,398	9,851	3,610	1,888	3,964	3,595
Yarn, tops.....	46	88	44	14	14	19	5,156	9,851	5,882	2,644	2,642	3,595
Iron and steel sheets.....	22	26	43	11	13	16	2,466	2,910	5,749	2,077	2,454	3,028
Seeds.....	48	57	29	18	24	14	5,381	6,381	3,877	3,399	4,530	2,649
Coke.....	7	6	9	9	11	12	785	672	1,203	1,699	2,076	2,271
Fertilizers.....	8	10	11	13	12	11	897	1,119	1,471	2,455	2,265	2,082
Peas, beans.....	43	43	15	11	13	11	4,820	4,813	2,005	2,077	2,454	2,082
Sugar.....	102	134	57	12	7	9	11,434	15,000	7,620	2,266	1,321	1,703
Others.....	495	599	349	244	246	308	55,488	67,052	46,658	46,073	46,433	58,281
Total.....	2,508	2,813	1,466	925	1,026	1,195	281,139	314,887	195,987	174,662	193,655	226,130

a/ 1934 only.

Bureau of Agricultural Economics.

- - - - -

A survey made by the Associated Chambers of Agriculture of 2,400 farms in the western part of Poland showed that in comparison with their status on July 1, 1932, indebtedness on farms of over 124 acres has increased by about 5 percent, whereas on smaller farms it has increased by over 9 percent. While the measures passed have helped the farmers weather the agricultural depression to some extent, there is still great need for some method whereby the heavy debts incurred prior to July 1, 1932, may be reduced.

Farm Taxation Lightened

As agricultural earnings declined under depression conditions, prices of farm lands fell rapidly. While values varied in different parts of the country, a medium-sized farm in central Poland in 1936 was worth less than one-half its price in 1929. Farmers everywhere were unable to meet the taxes and other fiscal charges imposed upon their holdings, and the proceeds from forced sales of farms were in many instances insufficient to meet their indebtedness. A law was passed on March 1, 1932, which made it possible to reduce past arrears by the punctual payment of current taxes. Similar action was repeatedly taken with regard to special taxes. Likewise, grains for sowing purposes, those not yet harvested, and livestock needed for farm work were exempted from certain charges. The farmers in this way were enabled to cultivate their land without fear of losing their essential means of livelihood.

GENERAL SUMMARY AND CONCLUSIONS

Self-sufficiency Aims and Results

An outgrowth of the agricultural depression in Poland was an effort on the part of the Government to increase the production of certain raw materials used for manufacturing industrial products by artificially removing the competitive disadvantages of the domestic producer. The various methods adopted for this purpose have been designated as the "domestic raw-materials program."^{7/} With growing industrialization, it was found to be more profitable to use American cotton than domestic flax; and Australian wool, American lard, and Argentine oilseeds gradually took precedence over the respective products of Poland. This natural economic trend toward the substitution of cheaper imported materials for those produced at a disadvantage at home conflicted with the Government's desire for self-sufficiency engendered by the depression and the example set by neighboring States, as well as by its need for foreign exchange. Consequently, foreign lard was barred by prohibitive import duties; the domestic production of wool was fostered in many ways; the flax industry was encouraged to a partial recovery; refiners were forced to purchase domestic oilseeds at prices double those on world markets; and, finally, only such quantities of raw materials as were considered indispensable were permitted to enter the country.

Lard - The program was most successful with regard to lard, which is a staple food among Polish peasants as a spread for rye bread. The tariff act of 1924 imposed a small duty on lard and unrendered hog fat, but it was with the increase in 1930 that the duty became really effective. In 1931, imports equaled only 1.5 percent of the total of 1928. The tariff increase of 1930 is considered by some authorities as the first step of the Polish Government toward the replacement of an imported article by one of domestic production. Furthermore, this action, together with the quantitative restriction enforced, was entirely successful in achieving its object. Since most of the lard shipped in had come from the United States, the decline in such imports was rendered all the more effective because Poland's trade balance with this country was more unfavorable than with any other country.

^{7/} American consul, Warsaw, April 5, 1935.

Wool - The encouragement of domestic production of textile fibers was first directed toward wool. In 1929, a Wool Research Institute was established, but little was accomplished until, spurred by military authorities, the Government in 1931 decreed the admixture of domestic wool with all wools purchased by the Government and created a commission to inquire into the problems of sheep raising in Poland. Although a number of measures were recommended by the Commission, few were carried out. Some improvement was made in the organization of the domestic market, demand for the home product was stimulated to some extent, and domestic prices were increased. Data are insufficient to show whether an actual expansion in production has taken place, but there has been some decrease in the importation of raw wool and wool products. Polish wool, however, is mostly coarse, short-fibered, and uneven. Until its quality improves, its use must be limited. Moreover, any great expansion in its production would necessarily aggravate the oversupply of mutton experienced in Poland, the disposal of which would in itself be quite a problem. The success of the "wool program" is therefore problematical.

Flax fiber - Poland ranks second to the Soviet Union in the world production of flax fiber, but the linen industry is still largely confined to the spinning and weaving carried on under primitive conditions in peasant households. Before the depression, some 130 million pounds of fiber were produced, mostly on farms of less than 125 acres. Production declined to 56,431,000 pounds in 1932. Exports, which had averaged about 18,000 short tons, fell to about 6,000 short tons, accompanied by a corresponding decrease in domestic utilization. A similar situation existed in the case of hemp. In response to appeals for Government assistance, two forms of aid were extended to these industries. In 1932, tariff duties were placed on cotton (about 4 cents per pound), wool (about 0.7 cent per pound on unwashed and 1 cent on washed), and flax and hemp (2.6 cents per pound on combed and 1.7 cents on uncombed). When imports came in through the port of Gdynia, however, special terms were permitted. Direct governmental intervention consisted of purchases of textiles by the various executive departments, mostly by the Ministry of War for use in the Army; the extension of credits through the State Land Bank for processing and storage facilities; the distribution of improved seed; various forms of educational, research, and standardization work with regard to flax and hemp; and import restrictions on jute, sisal, and manila hemp. The results obtained cannot be evaluated, but some degree of recovery has been noted. The production of both hemp and flax fiber has shown an increase in recent years, but predepression volume has not been attained.

Oilseeds - From 1929 to 1933 the consumption of vegetable oils and fats in Poland declined materially. Imports of oil-bearing material, on the other hand, showed a marked increase until they reached a record in 1934. Although the country's agriculture was capable of producing a large part of the oilseeds used by the refineries, it was evident that they turned to other sources for most of their supplies. In 1934, the Government adopted a drastic method to increase the consumption of domestic oilseeds by forcing the seed producers and the oil refiners to sign an agreement, stipulating that all domestic oilseeds offered to the refineries must be purchased by them at prices fixed in advance. Import permits for oilseeds were then issued to such refiners only as had taken their respective, predetermined shares of domestically produced oilseeds. An Oilseed Exchange was set up to operate under the direction of the Government. In agreement with the producers, it fixes the area to be sown to oilseeds and the approximate outturn to be expected. Working with the refineries, it estimates the national utilization of oils and the amount of imports needed, supervises contracts for the purchase of domestic seeds, and fixes standards of quality. If disagreement with the refineries occurs, it must be settled through arbitration. The Director of the Exchange is said to have stated that the results desired were fully realized. Domestic prices increased to twice the level in export markets, the production of oilseeds became profitable to farmers, the oilseed acreage increased, and the country became more nearly self-sufficient in respect to raw materials for oil production.

Effect of Polish Policies on United States Trade

Although Polish governmental measures for increasing grain exports might under normal conditions result in some competition with the United States in European grain markets, existing trade barriers and drought-reduced crops in this country in recent years have minimized the importance of such competition. Furthermore, Poland's chief export grain is rye, while that of the United States is wheat. The competition offered by Polish livestock and livestock products is not significant, because bacon is the most important item of this class of trade, and practically all bacon exports from Poland are to the United Kingdom under quota. Nearly all of Poland's pork exports take place under trade agreements, as do exports of live hogs; the major part of these products goes to neighboring countries, such as Germany, Austria, and Czechoslovakia, which under present conditions are not outlets for similar products from the United States. A large part of the hams exported by Poland enters the United Kingdom under quota. Prior to 1935, they consisted almost entirely of mild-cured green hams and constituted the bulk of Polish exports of this commodity. With an increase in the production of boiled tinned ham, however, the United States has recently become a rather important customer for this article. Exports of 295,000 pounds in 1934 increased to 36 million pounds in 1937, with a value of 50,316,000 zloté, or slightly more than half the value of Poland's entire exports to the United States in that year.

Recent changes that have taken place in the trade between Poland and the United States are of interest, although not attributable entirely to Polish agricultural policies. Imports of United States goods into Poland have always greatly exceeded Polish exports to this country. In 1928, imports were valued at 467 million zloté (\$52,000,000) as against exports to the United States valued at 19 million zloté (\$2,000,000). In 1930, the respective values were 271 and 22 million zloté; by 1932 they had declined to 104 and 10 million zloté. There was an increase in the value of trade between the two countries in 1933 and 1934, but the proportions remained about the same. In 1935, however, United States imports into Poland showed only a small increase, while exports to this country almost doubled in value. In 1936, there was a decline in Polish imports from the United States and another marked increase in exports to this country; the respective values were 119 and 67 million zloté.

Poland's raw-materials program contributed to the decline in imports from the United States. As has been pointed out, the program was most successful in the case of lard. Imports of this product came principally from the United States. In 1926, total imports of lard into Poland amounted to 15,705,000 pounds, of which 9,196,000 pounds originated in the United States. In 1928, the total was 44,600,000 pounds, with 33,000,000 supplied by the United States. Of total imports in 1930, amounting to 26,548,000 pounds, 24,236,000 were from this country. By 1931, the total had dwindled to only 577,000 pounds, practically all from the United States. In 1932 no lard imports were reported.

The effect of the encouragement given the linen industry on cotton imports into Poland is not apparent in trade figures. During the period 1926-1930, Poland imported an average of 294,000 bales of cotton; in 1931-1935, over 270,000 bales. In 1936 and 1937, 326,000 bales and 334,000 bales, respectively, were taken. The share contributed by the United States, however, has declined from 81 percent, the 5-year average during both 1926-1930 and 1931-1935, to 67 percent in 1936 and to 54 percent in 1937. Intervention purchases made by Polish authorities did not include cloth made from United States cotton, which had some effect on imports from this country, but much of the loss to our exporters resulted from increased competition from other cotton-producing countries.

Another important item in the import trade with the United States was fresh fruit, more particularly apples. Averaging around 146,000 bushels in 1931-1935, the trade in United States apples was completely lost with the exclusion of "nonessentials" from Poland by high customs duties and quota restrictions.

Present Situation of Polish Agriculture

Polish policies with regard to agriculture are so greatly influenced by good or poor crops that they appear to be the results of expediency rather than of long-range planning. Despite conflicting political aims, however, and the exigencies created by the world agricultural depression, Poland has clung to the hope of maintaining its balance of payments through merchandise exports, primarily of agricultural products. Although the growing industrialization of the country has called for the importation of raw materials and capital goods in larger quantities in the past few years and reduced Poland's favorable trade balance, the increase in crop production, attended by the rise of international grain prices in 1936, brought about a marked improvement in the domestic situation of the country. Purchasing power increased, and the financial status of the farmers was eased to some extent. As prices for farm products advanced in 1936, pressure was exerted by the Government to keep prices of industrial goods from rising too rapidly. The relationship between prices received by farmers and those paid by them in 1937 was more favorable than at any time since 1929.

Table 5. Indexes of prices in Poland, 1929-1937
(1928 = 100)

Year	Goods bought by farmers	Goods sold by farmers	Excess goods bought over goods sold
1929.....	100.7	89.5	11.2
1930.....	98.5	67.6	30.9
1931.....	90.4	59.5	30.9
1932.....	81.0	48.9	32.1
1933.....	72.6	42.6	30.0
1934.....	70.3	37.0	33.3
1935.....	66.3	35.8	30.5
1936.....	64.6	38.7	25.9
1937.....	66.1	49.2	16.9

United States consulate general, Warsaw.

The value of total exports from Poland during 1937 was considerably above that of the previous years and the upward trend apparent for most agricultural products during 1935 and 1936 was continued. A temporary embargo on exports of bread grain became effective in April 1937 and resulted in a marked reduction in grain exports, but the volume and value of meat and meat products moving out of the country were considerably above those of recent years. Gains were also reported for forestry products, live pigs, and eggs. Most of the principal items in Poland's 1937 import trade were also above the respective figures for 1936; increases in imports of raw materials, machinery, and equipment were most pronounced. Although the trade balance was somewhat unfavorable for the year, the increase in total foreign trade was indicative of the general improvement in the economic welfare of the country.

.
.
.
.

RECENT DEVELOPMENTS IN BRITISH AGRICULTURAL POLICY . . .

By P. G. Minneman*

Generally the British agricultural policy continues to give first place on the British market to domestically produced goods, second place to products of Empire origin, and the remainder to foreign. It has sought to increase the returns to home producers sufficiently to make them prosperous, to increase their purchasing power, and to stimulate an increased volume of production without unduly increasing prices to consumers. For home producers, this involves price fixing, subsidies, levies, production quotas, and import duties and quotas. For Empire producers, it involves preferences in import duties and preferential quotas, both voluntary and compulsory. For foreign producers, it involves limiting their competition through import duties and import quotas. To these objectives has recently been added the factor of preparedness for war emergency through food storage and plans for further increased home production as a part of the national food defences.

British agricultural policy has not recently undergone any fundamental change, but there have been serious controversies over the methods by which the policy should be effectuated. One of the principal questions has been whether further expansion in home production should be aggressively sought by more or less artificial stimulants or whether it should be left to develop upon a more nearly normal basis until an emergency arises. With respect to methods, much discussion has centered on (a) the levy and domestic-subsidy plan, such as is now in operation for wheat, as contrasted with control by means of (b) import duties and, alternatively, (c) import quotas, either through voluntary agreement of the countries concerned, such as in the World Beef Conference, or on a compulsory basis.

The application of import quotas or allotments on the basis of voluntary agreement of the countries concerned, with possible compulsory application in the case of disagreement, is being given further prominence through the Ministry of Agriculture's announcement that the Government approved the proposal made at the Empire Producers' Conference in Sydney, Australia, to set up commodity councils on the lines of the International Beef Conference as an aid to organized marketing. The beef precedent is to be adopted in dealing with other commodities, such as dairy products and lambs. In a memorandum of conclusions attached to the Anglo-Australian Agreement and issued as an official "White Paper" at the conclusion of the talks, the extension of such commodity-control committees operating on an allotment basis is recommended by the Australian Government and approved by the British Government. The Minister of Agriculture said, "I hope that this movement, now auspiciously started, and blessed by the Australian Government the other day, may have great results and help us to solve the problem in a fair and just way for all concerned." The Australian Dairy Produce Board is seeking an Empire Commodity Council for dairy products. It will be recalled that bacon and ham imports are already on a similar basis administered by the Board of Trade. A gentleman's agreement with brewers has been in operation since 1933 to limit the proportion of foreign barley used in brewing.

*Assistant Agricultural Attaché, London office, Bureau of Agricultural Economics.

NATURAL OR ARTIFICIAL EXPANSION

Following increased war threats on the Continent, the question of agriculture's preparedness for a war basis was brought to the foreground in England. On Saturday, July 2, the Prime Minister outlined the Government's refusal to be stampeded by fear of war into forcing a hothouse expansion of British agriculture. Agriculture was to be assisted only along its "natural lines of development." He denounced the aim to produce all of Britain's food at home. Even if this were possible, it would be a costly experiment and one that would have dire results. In the first place, it would ruin those Empire and foreign countries dependent upon British markets. That in turn would cause unemployment in British exporting industries with consequent reduction in purchasing power at home and reduced purchases of farmers' products, so that the final sufferers would be the farmers themselves. The Prime Minister declared that the idea of Great Britain's being starved out in war was fallacious, since the country could "depend upon her Navy to keep the sea routes open."

The Prime Minister laid down two precautions that must be taken. The first was provision against dislocation of supplies from air attack, for which emergency stocks have been laid in. The second was to ease the Navy's burden of transport by increasing the amount of home-grown food. Plans had already been worked out for the latter and would function as soon as hostilities began. These two peacetime precautions were all that were necessary to secure food supplies in time of war. The Government's object was to give the farmer some measure of security, and it was useless to put forward measures that could not be maintained during a long period.

The Prime Minister's statement led farmers to believe that he meant more than he had actually said. The National Farmers' Union and others who had been looking for an opportunity to demand increased favors for agriculture considered this statement to be distinctly unfavorable and that it constituted a reversal to free-trade principles - to the policy of cheap food at all costs. The 1938 agricultural census returns were cited to show that "natural development" was inadequate and that British agriculture was losing ground, since more people were leaving farms, the proportion of permanent grassland was being increased, and some prices, notably sheep prices, were ruinously low.

Another angle of attack was the Prime Minister's statement that, if British farmers produced more, "foreign farmers would be ruined." This appeared to be inconsistent with the promise to develop home production. The point, however, is a very important one in British foreign policy because of the large British capital investments in South American countries.

The Prime Minister and the Minister of Agriculture then explained that there was no need to throw agriculture temporarily out of gear through artificially expanding home production and referred to the dire experiences following the repeal of the Corn Laws. They outlined the beneficial effects that had accrued from the present measures for the relief of agriculture and stated that the Government was convinced "stable prices depended upon the regulation of production and importation." Further, the Government intended at the next session of Parliament (1) to amend the Wheat Bill and permit a review of the standard price, implying that the guaranteed returns to growers might be increased above the present level of 10s.0d. per hundredweight; (2) to deal comprehensively with milk, eggs, and poultry; and (3) to extend the principle of international commodity councils already referred to.

- - - - -

In this connection, it is of interest to note that in 1937, the first year under the Anglo-Argentine trade agreement, Argentina substantially increased the trade balance in her favor in spite of the tariff of 0.75d. per pound on Argentine beef and the restrictions on meat imports into the United Kingdom.

It is felt that further development in agricultural schemes involving imports from foreign countries may be considerably influenced by the solution to be reached on the part of the United States and Canada with respect to exports of surplus wheat. It is pointed out that, although Great Britain's immediate interests would be advanced by the purchase of large quantities of low-priced wheat for feed and for building up surpluses, the repercussions of this would be far reaching. For instance, the new hog-marketing scheme includes an arrangement whereby producers' prices will be varied according to variations in feed costs, in which wheat at low prices would play a considerable part. Furthermore, unusually large purchases from Canada and the United States would result in smaller purchases from the Argentine and other Empire countries, thus upsetting the balance of trade with those countries.

STORAGE FOR WAR EMERGENCIES

Another phase of agricultural policy developing from the war scare is the plan to build up emergency stocks of food products in the United Kingdom. As early as February 9, the House of Commons debated the motion to extend and build new storage facilities, but this motion was voted down because it was stated that the Food Defence Plans Department had made a complete survey of food supplies and worked out a plan of action.

On April 26, however, the Chancellor of the Exchequer announced that the Government had already purchased 40 million bushels of wheat, 400,000 long tons of sugar, and considerable whale oil to be stored for war emergencies, and asked Parliament to give the necessary retroactive authority for such action. On August 25, the Board of Trade announced that the regional organization for control of food in time of war had been completed throughout Great Britain and was making rapid progress with the details of comprehensive food-control schemes to be put into operation in the event of war in order to provide for the uninterrupted supply of food in all parts of the country.

With the controversy resulting from the Prime Minister's statement of agricultural policy, the question of storage again came to the front; and at the meetings of the British Association for the Advancement of Science at Cambridge, August 17-24, further storage schemes were presented by the economist J. M. Keynes. The Government's storage policy had been criticized for being both tardy and inadequate. Mr. Keynes's "Joseph" policy of storage on a gigantic scale was not intended primarily as a war precaution but as a permanent reform for greater economic security in peacetime. His proposal was that the Government should construct additional storage facilities and provide storage to commercial interests either free of warehouse charges and interest or at nominal charges. Private interests could continue to own the goods and assume the price-change risks and would be free to remove and dispose of the goods at any time. The Government, however, would prevent stocks from falling too low by the purchase of goods outright when exigencies demanded.

Mr. Keynes's scheme attracted particular attention from an Empire-policy standpoint through the suggestion that stocks should be purchased from Empire countries. At an annual cost of about 100 million dollars, the Government could provide storage for 2.5 billion dollars worth of food and other raw materials.

